

"What about the University of Fraserburgh?" The Scottish Tertiary Education Advisory Council's review of future strategy was submitted this week. Olga Wojtas previews a SAC report that has unleashed some searching questions and weighs precedents on SCOTTISH HIGHER EDUCATION (page 12)



Bedside manners are extra: LAW suffers from compartmentalization of specialisms and approaches just as much as medicine. Patricia Woodward and Patrick Dalton examine the need for a new "clinical" approach to legal education (page 13)

Japan's invasion of MANCHUKUO in 1931 offered clear signs that the League of Nations could not effectively keep the peace. In the second of an occasional series on the political crises of the last half century, Ian Nish considers the origin and fate of "Manchukuo" (page 15)

Communism and development, inflation and unemployment, the managed economy, productivity, protection and growth: these and other subjects are examined in six pages of reviews of ECONOMIC BOOKS (pages 20-25)

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Paul Kennedy on the British intelligence community



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Keele and City

Poor Keele! If many reports of its proposed merger with North Staffordshire Polytechnic are to be believed this is a last-gasp strategy, the only alternative to otherwise inevitable closure. Indeed such is the instinctive snobbery that still prevails in large parts of British higher education the difference between outright closure and amalgamation with a polytechnic does not appear to be significant to some people. Both represent the annihilation of the university.

Poor City! The naive hope in that university that the idea of a merger with the City of London Polytechnic would simply go away has been destroyed by Sir David Hancock's recent letter. The permanent secretary's letter contains what is conventionally regarded as an offer that you cannot refuse - more usually made by Marlon Brando with padded cheeks and in a semi-Italian mumble. Sir David asks the City University on behalf of the Secretary of State to "review" its decision not to take part in the feasibility study of an amalgamation which was proposed last year by the Inner London Education Authority.

In both cases the emphasis has been placed on the coercion of the university. Both are seen as acting under duress. At City this appears blatant. After some initial vacillation, especially perhaps by the vice chancellor, the university decided last year it did not wish to pursue the idea of a merger with the City of London Polytechnic, even by taking the first small step and agreeing to participate in a feasibility study with the polytechnic and the ILCA and the University Grants Committee and the National Advisory Body as interested observers. For better or worse that was the university's decision. Now it has been told bluntly to change its mind.

At Keele the element of coercion is less obvious. Here the initiative has come from the university. But Keele has been included on too many of those informal lists of vulnerable institutions so influentially gossiped about in and around Government for comfort. So it has been difficult to prevent a cynical interpretation of the university's motives gaining ground. According to this interpretation the university has made a clever move which demonstrates that it is prepared to contemplate its future with an open-minded flexibility, or is simply anticipating the inevitable by proposing a merger with North Staffordshire now rather than facing a forced merger in three or four years. This emphasis on coercion is both exaggerated and wrong. It is exaggerated because it distorts the balance of motives behind the proposed mergers, especially at Keele. Of course Keele would face a difficult future as an independent university. But that experience would hardly place it in a unique position. Certainly its fewer than 3,000 students place Keele uncomfortably close to most people's

estimate of the minimum viable size for a university. Its origins as an expression of the extramural enthusiasm of the austere and high-principled 1940s also place Keele in a unique and so isolated category, coming after the civic and redbrick universities but before the 1960s wave of new universities. Neither factor may be especially helpful in terms of the research reputations rat-race and A level scores besuited contest that are to be the regime imposed on the universities in the 1980s.

But Keele does not face imminent closure, or probably closure at any time. London gossip should not be taken so seriously. In investigating a possible merger with North Staffordshire the university is not accepting an offer that it cannot reasonably refuse. It does have an alternative, to soldier on as a beleaguered institution which will almost certainly be the common experience of more than a dozen universities. Keele is talking about a transitory merger because it wants to not because it has to. Indeed both its geographical position in the Potteries and its peculiar traditions probably predispose Keele to regard such a merger more favourably than the average university.

Even with City the emphasis on coercion may be misleading. Of course the university is in a bit of a corner. Because it chose to stay outside London University it cannot look forward to a prestigious merger such as Chelsea, another former college of advanced technology, has just accomplished with King's. The City of London has not provided the powerful communal support which was anticipated, perhaps because the city's financial interests are not reflected in the predominance of engineering within the university. Its business school with its ambitions of Thatcherite self-sufficiency in its plush Barbican base is another unsettling factor in City's present constitution.

However, the case for a merger with the City of London Polytechnic is not constructed entirely out of such negative factors. Like Keele, City would survive without merging with its neighbour polytechnic. But the positive attractions of a merger with ILCA's quietest but maybe best polytechnic are also appreciated within the university, if not yet by a majority. The combined institution would have a disciplinary mix that fitted in much better with the City of London's preoccupations, so perhaps leading to an increase in communal support. It would also benefit from the polytechnic's impressive commitment to continuing education. It would move from being a side-show alongside the much more spectacular London University act to become an impressive act in its own right. And, of course, it would please a wide range of powerful patrons, the Department of Education and Science and the ILCA, the UGC and the NAB, all of whom

could reasonably be expected to back their ambitions with resources.

But the emphasis on coercion is wrong in a more fundamental sense. For it reflects the thoughtless and indefensible belief, maybe instinctive but better in universities that there is no worthwhile life on the wrong side of the binary line, or in the no man's land between the two sectors where Keele and City (and North Staffordshire and City of London) might find themselves. Yet transitory mergers offer what mergers of institutions within a common sector cannot offer, a new beginning. However necessary and however well implemented mergers like those that have taken place among the schools of London University can only produce a more sensibly arranged pattern of conventional institutions.

Mergers like those proposed between the two Cities and between Keele and North Staffordshire can do much more. As well as producing the same benefits of better academic and more economical arrangement they also create a new kind of institution, one that breaks through the limits established 20 years ago at the time of the Robbins report and Anthony Crosland's binary counterpart. They are a genuinely radical enterprise, one that if successful can harness the academic excellence and the liberalism of the British university tradition to the broader and more practical goals embodied in the polytechnics.

So far from having drawn the shortest of short straws Keele in its willing proposal for a transitory merger and City in its more grudging acceptance of political force majeure have both been given the opportunity to play a pioneering role in the most hopeful form of rationalization available to British higher education. There is the best not the worst fate. Necessary as much rationalization within sectors may be, it is bound to be a plodding and occasionally dispiriting business. Hopes have to be abandoned, ambitions sacrificed, identities eroded, traditions lost.

Transitory mergers that create a new kind of university are potentially very different. They offer new hopes to balance old hopes that must be abandoned; they stimulate new and changed ambitions; they provide new identities more potent than the old and create new traditions of British higher education. Of course the difficulty that accompanies such a radical enterprise has to be admitted. But these admitted obstacles of finance, academic organization, administration and government are as much the concern of the DES, the UGC, the NAB, the sponsoring local authority, the research councils, and the trade unions, as of the institutional partners. The latter face different obstacles, psychological obstacles of will and conviction which Keele seems to have surmounted and which City must face once again.

Switch on - or off?

It comes as no surprise that many polytechnics and colleges have not been able to recruit all the engineering students allocated to them by the National Advisory Body. Part of its effort to switch students into science and technology has set targets that are admitted to be over-ambitious. To some degree these targets were intended to act as signals to the system and as incentives to individual institutions. After all targets that could be met too easily would be unlikely to create the momentum towards science and technology which the NAB in line with the policy of the Government was trying to create.

But the NAB planners have to strike a delicate balance. They have to set targets that stimulate a continuing movement towards science and technology without creating a capacity that leads to systemic inefficiency. In previous years they seemed to have got it about right. Some targets were not fulfilled and had to be adjusted but no

serious difficulty over unfilled places was encountered. This year it looks as if they have not been so successful - or perhaps lucky. The number of institutions unable to recruit up to their targets has increased - and at a time when the contrary pressure from the Department of Education and Science to increase efficiency by moving quickly to less generous staff/student ratios has also increased.

The new and destabilizing factor of course is the so-called switch, the extra £43 million provided by the Government to create more engineering places in universities. The first phase of this "switch" programme was confined to the universities, with all too predictable consequences for polytechnic and college recruitment in these subjects. Only in the second phase has some modest polytechnic participation been permitted, and only after the vigorous protests of the NAB.

The case for this universities-only approach rested on two points. The

first, an ephemeral justification, was that the universities were able to respond more quickly because the polytechnics were constrained by the NAB's planning timetable. The second was that the universities could deliver superior quality, a belief that has been denied by anecdotal evidence which suggests that some universities have recruited higher diploma candidates regarded as unsuitable for degree courses by polytechnics.

The switch was always a doubtful approach to "task which everyone accepts as an important priority. In the short run the qualified candidates were not available, and the chopping and changing provoked by the extra university places undermined rather than enhanced quality. An alternative approach which emphasized conversion and up-grading courses and measures designed to influence sixth-form behaviour might have seemed less spectacular; it would almost certainly have been more effective.

Laurie Taylor



From The Equipment Committee
The following minute from the recent meeting of the Equipment Committee is circulated for the information of all Heads of Department.

Minute 123/5674/85

After giving careful consideration to recent departmental equipment bids, the committee made the following comments and recommendations.

Department of Physics

	DECISION
Emras-Nonius FR 582 Highly Stabilized X-ray Generator (£11,570)	Rejected
(Committee Comment: No chance)	
Four ounces of iron filings (56p)	Approved
Replacement Magnet (£1,500)	Approved

Department of Archaeology

	DECISION
Very Small Roman Artefact for Demonstration Purposes (£8)	Approved

(Committee Comment: This item is approved on the understanding that the "artefact" will be available for exhibition in the Administrative Block on Open Day)

New trowel (£4.50)

	DECISION
New trowel (£4.50)	Rejected

Department of Biology

	DECISION
Beckman DU 7 Scanning Spectrophotometer with Kinetics (£18,100)	Rejected
(Committee Comment: How Much?)	
Six Assorted Frogs (price subject to seasonal adjustment)	Approved

Vice Chancellor's Office

In connection with forthcoming UGC Visitation: Portrait of Sir Peter Swinnerton-Dyer by local artist (£250) with wife (£350) (Committee Comment: The Vice Chancellor will be asked to look into the possibility of acquiring a large coloured photograph)

	DECISION
One £20 bribe (£20)	Approved

Department of Music

	DECISION
One replacement second-hand nose-flute (£2)	Rejected
Tin of needles for radiogram (£1.50)	Rejected

Department of Chemistry

	DECISION
Fourier Transform 90MHz Nuclear Resonance Spectrometer (£89,000)	Rejected
(Committee Comment: Pull the other one)	
New bit of rubber tubing for Bunsen burner (£1)	Approved
Packet of litmus papers (large) (£2.50)	Approved

Department of Experimental Philosophy

	DECISION
Replacement Hare (present animal is now insufficiently agile for use in Zeno's Paradox demonstration)	Rejected
(Committee Comment: The Department will be asked to look into the possibility of handicapping the tortoise)	

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Research avoids spending squeeze

by John O'Leary and Jon Tunney

There was good news for research but little cheer for teaching in universities or polytechnics in this week's announcement of Government spending plans for the coming three years.

Science was the main beneficiary, the research councils receiving an extra £15 million in each of the three years covered by the statement. And the scheme to replace equipment in selected university research centres, which had to be scaled down when last year's plans to cut student grants were abandoned, has been fully reinstated and extended to a third year.

But the squeeze continues for higher education in general. Appeals from the vice chancellors for more money to compensate for rises in National Insurance contributions and clinical academics' pay, and from the local authorities to maintain funding levels in polytechnics and colleges have fallen on deaf ears. The universities' recurrent grant has been held at the level proposed in January's Expenditure White Paper, representing a cut of 1.6 per cent in real terms according to the Government. And hopes of some recognition of additional costs in 1986/87 are also dashed with the announcement of a grant of £1,342 million, only 2.5 per cent up on the current year.

Sir Peter Swinnerton-Dyer, chairman of the University Grants Committee, told a meeting at Exeter University on Wednesday that Sir Keith Joseph appeared to regard all public expenditure as "a positive evil".

In a disappointed reaction to this week's expenditure statement he said the case for education was not being put as powerfully as it could be by Sir Keith. "If

- Science budget up by £15 million for three years.
- £10 million for three years for equipment in selected university research centres.
- New blood scheme for 25 students per year in humanities and social sciences.
- Universities' recurrent grants pegged below inflation.
- Advanced further education pool confirmed at £15 million below NAB demands.
- Review of student support abandoned.

you have someone representing your interests who has a good public image and has outstanding character who will fight your corner, you have a chance, but Sir Keith Joseph has neither. Just compare us with defence."

Confirmation of a budget of £661 million for the advanced further education pool will trigger a fierce row over next year's intakes in colleges and polytechnics. The committee of the National Advisory Body decided last week to sanction a rise of more than 5,000 in student numbers for 1986/87 despite claims that another £15 million was needed to maintain existing funding levels.

Dr Ray Rickett, director of Middlesex Polytechnic, accused the committee of hypocrisy in agreeing to increase numbers in defiance of the NAB's policy of allowing no further cut in funding levels. But Mr Christopher Ball, chairman of the NAB board, said that the committee had decided to preserve access for students, recognizing that resources might have to drop below acceptable levels for a short crisis period.

There was better news for the humanities and

social sciences, in the form of a "new blood" scheme to be administered by the British Academy, which will fund 25 fellowships in each of the next three years. And the Computer Board also receives £3 million over two years to enhance its Joint Academic Network (JANET).

The boost for the research councils means Sir Keith Joseph, Secretary of State for Education and Science, has granted what he promised last year but failed to deliver in the face of a backbench revolt over cuts in student support. And the new money won from the Treasury means the increase goes beyond that, giving the Advisory Board for the Research Councils as much as it bid for in 1986/87, though not in the next two years.

The money will be split, £10 million going on strategic research projects in areas like chemical sensors, protein engineering, atmospheric chemistry, molecular neurobiology and crop plants, and £5 million for capital investments.

The University Grants Committee's highly selective scheme of special equipment awards will be worth £10 million instead of £7 million in each of the next two years, and is extended for an extra year at the same level. This will ultimately yield grants for large equipment purchases for 50 or so research groups, one of the key factors in persuading outstanding British scientists to turn down offers to work overseas.

Increased student numbers and a higher proportion of students receiving mandatory awards produces a big increase in the money set aside for grants. But Sir Keith announced that he had abandoned his plan for a consultative paper on student support.

Details, page 3



Genesis of secrecy, 12 and 20

Two-year degrees go ahead

The National Advisory Body is to press ahead with plans for two-year degrees despite a refusal by the University Grants Committee to join the experiment.

Proposals for two-year courses for high-fliers were first made in the NAB's strategy advice to Sir Keith Joseph, Secretary of State for Education and Science, last year. But the submission made university participation a condition of progress because of the danger that the courses might lack the prestige necessary to attract good applicants.

While retaining the three-year degree as the norm, a pilot project would test the demand for and feasibility of accelerated study by those judged capable of reaching the required standard in a shorter period.

The Government's Green Paper on higher education gave approval for a limited experiment in a small number of universities and polytechnics and invited the universities and public sector bodies to consult on a pilot scheme.

However, the plan looked dead when Sir Peter Swinnerton-Dyer, chairman of the University Grants Committee, told the NAB there was "no support at all" in the UGC for even a limited experiment.

The NAB chairman's study group was given the option of abandoning the plan or pressing the UGC to reconsider if a transitory exercise was considered essential to the success of the project. But its members decided instead to go it alone with a feasibility study for a pilot scheme.

Support for a public sector initiative came from institutional representatives as well as those from the local authorities and industry. The new degrees would be closely associated with industry and commerce, possibly restricted to sponsored students so as to ensure the job prospects of the early recruits.

The vice chancellors' code of practice will give detailed guidelines on how to achieve better security at meetings, emphasising that any extra expenses (for special measures should be borne by the organizers).

It will also recommend disciplinary measures which may be taken against trouble-makers, including suspension and fines for students, and taking outsiders to court. Vice chancellors have maintained to Sir Keith that most of the trouble at meetings is caused by "right-wing" crowds of political activists.

Queue grows for freer validation

by Karen Gold

Polytechnics and colleges are queuing up for freer validation agreements with the Council for National Academic Awards, along the lines of those which began this term at Sheffield and Newcastle polytechnics.

Despite the imminence of a Government decision on the Lindop report which recommended complete freedom in validation for some institutions, most polytechnics and some colleges have already begun discussions with the CNAA on agreements within the limits of the council's present charter.

Several polytechnics may have new agreements starting in January. The present frontrunner is Kingston, whose detailed submission successfully went through the first stage of the CNAA's process for new agreements last week when it was considered by the council's reviews coordinating subcommittee.

The Kingston proposal is very similar to the Sheffield one: a one-year experiment in which the polytechnic's academic board carries out new and re-validation of courses in conjunction with invited outsiders to continue the process of peer review.

Among other polytechnics pressing for agreements soon are Plymouth, which wants a January agreement; Coventry, which says it wants one as soon as possible; Middlesex, where there has been talk of a January agreement; and Birmingham, which says it wants one by the end of this academic year.

Twenty-three institutions are known to have had at least informal talks with CNAA officers on new agreements, and many of those have told the CNAA in writing that they want one. This follows a letter from the council in the summer to all institutions asking how they see their future validation.

Apart from those above, the institutions in the queue are: Brighton, Huddersfield, Huddersfield, Lancashire, Leicester, Manchester, North East London, North Staffordshire, Oxford, South Bank, Sunderland, Trent and Wolverhampton polytechnics, and the Humberdale and Worcester



Stepping eastwards: literary magi John Fowles (right) and Malcolm Bradbury at the University of East Anglia this week. Fowles was making a rare public appearance to discuss his work with fellow novelist Bradbury, professor of American studies at UEA. "Novelists aren't cleverer than other people: they're that wee bit slower than everybody else," he said. Not wise men, perhaps, but certainly stars.

V-cs' code includes option to ban campus speakers

Universities may have to ban public figures from speaking on campus if the organizers of meetings cannot guarantee effective security measures.

The banning option will be included in a code of practice by the Committee of Vice Chancellors and Principals later this month.

The code will make clear to universities that freedom of speech is not an absolute right at all times, and university authorities should have the right to stop meetings or visits by controversial figures if there is any threat to their safety.

Although the issue of free speech on campus has long been a particular concern of the Secretary of State for Education, Sir Keith Joseph, events this week have added urgency to the vice chancellors' move.

At Manchester University, the all universities by the Committee of Vice Chancellors and Principals later this month.

The university has demanded a detailed report from the students' union, which was responsible for

security during the meeting, threatening to withhold some of its grant if the report does not prove satisfactory.

At the same time, another controversial public figure, Mrs Victoria Gillick, has announced her intention to cancel all speaking engagements in universities because of a "co-ordinated campaign against her being heard".

Mrs Gillick, who recently lost her case to prevent doctors being allowed to prescribe the pill for girls under 16, said "unfettered political elements" were determined that she should not have a platform during recent meetings at Oxford, Manchester, Glasgow, and

Sheffield.

The vice chancellors' code of practice will give detailed guidelines on how to achieve better security at meetings, emphasising that any extra expenses (for special measures should be borne by the organizers).



Now that the BBC's presentation of *Tender is the Night* has trickled away into dismal oblivion, I find myself thinking again about Scott Fitzgerald and at the same time about some of the problems and implications in translating literary material into television form. On the latter point I am in a relatively strong position because architecture is a very visual subject that cries out to be filmed and televised; though I have to add that I took many years and many meetings before the BBC was persuaded that architecture was a suitable subject for treatment. One of the celebrated gurus of the corporation had declared that the trouble with architecture was that it wasn't sufficiently visual, a truly original view. For me and doubtless many other students the reading of Scott Fitzgerald's novels was one of the delights of my student days. I suppose I read them at the right time, even though it was in anything but the right university. There was nothing about Edinburgh that matched the scenes in *This Side of Paradise* and nothing either about the poverty-stricken and often squalid environments in which I dreamed my dreams and had my visions. And yet there was something immediate and magical about reading it and the grim grey city of Edinburgh and its dour university took on a new dimension that made it even more drastic and tormenting.

Tender is the Night, which I read when I was studying English literature, is unconvincing.

ture and was reading widely without taking a single note during lectures - a habit that paid off handsomely but probably shouldn't be recommended to the passive young, almost convinced me that Fitzgerald had achieved what he wanted, the writing of a great novel that would be "good, good, good." Its flat ending could only be realistic.

Surrounded by occasionally optimistic but usually disillusioned ex-servicemen with realism stamped all over their faces, I assumed that we would all be failures in the end (which was pretty realistic, of course) and just hoped that I would meet someone rich enough in exotic Mediterranean resorts to make it interesting.

The trouble with the television presentation was that it was unconvincing. From the start it seemed impossible that Dick Diver could be a brilliant psychoanalyst so it was not very surprising when he failed to achieve. His parties did not offer the fantasy and imagination that I had expected; they seemed indeed rather a bore. There was no sense of lurking disaster that is there in the book from the beginning. Nickie looked right and was sufficiently mysterious that I did wonder, as I have occasionally done during other performances, whether what made her enigmatic and thus convincing was that she simply didn't understand what the play was about and so looked as baffled as she actually was.

It may be that Scott Fitzgerald does not easily translate into film, that is, into dialogue. Unless the adapter translates comment into dialogue one misses those unexpected, haunting and memorable phrases that seem to come naturally to Fitzgerald's fertile brain. Perhaps the book should have been translated into a story told by the different characters through whom the different parts of the book are seen. Or perhaps I am just growing old and missing the magic.

Letters to the editor

Creating wealth by design

Sir, - Temporarily engaged as I am with the education of art and design students I turned with eagerness from Patrick Nuttgens column to G. C. A. Dickson's essay - "Risky business" (*THES*, November 1) and suffered shivers.

Grateful as I am to scholars of banking and insurance for clarifying the distinction between speculative and pure risks in industrial/commercial activities I was disappointed to find that the speculative side of the coin appears the minor of the two challenges now under investigation by students of banking and commerce. It is perhaps one of the unfathomable problems confronting the present government's design policy/philosophy that whilst the nation's creative resources - in the person of designers - are being politically and bureaucratically marshalled to rescue the economy, there is a failure of entrepreneurial guts to venture fearlessly into the area of speculative risk.

Despite the consultancy schemes, the Design Council, the promotional campaigns, the prime ministerial performances on television - with all their

supposedly "encouraging" signs - the shop-floor feed-back continues to be one of suspicion and cautiousness by businessmen towards design. It even appears that far from being "a risk he accepts as a result of engaging in the particular business activity" the businessman when confronted with design decisions is generally slow (if not fearful) to perform with individual and independent flair and judgement in the area of speculative risk.

The behavioural sciences, their off-spring market researchers, advertising agencies, economic forecasters and accountants are all recruited to help minimize the risks for the entrepreneur in precisely this area of speculation. It might be that the rash of courses cropping up for future businessmen and women to educate and alert them to the "importance and value of design" will be productive but it is equally possible that they will perform much like those published manuals for marital success - at best able to schematize what "it" is all about without ever really leading to sustained understanding and activity.

One of the art and design institu-

tions I have contact with is dedicated, currently, to being run in accordance with and in response to "market demand". It is perhaps a token of the loss of confidence in anything but the immediate future that such an uninspiring, hush utilitarian and ultimately unadventurous position should be taken by a college of art and design today. Has it arisen because speculative risk is far removed from the ingredient in business it is supposed to be and our young designers are needed only to perform competently rather than enthusiastically?

I had hoped Mr Dickson's article might have been a business scholar's essay on the need (or not) for real and speculative risk today in the business community that could be of value to teachers and students in art and design. Unfortunately, it appears risk management education is not primarily interested in this area and like Mr Nuttgens I would ask "Does it matter after all?"

Yours,
L. J. DE FREITAS,
17 Marlborough Place,
Banbury, Oxon.

Narrow debate

Sir, - Your leader, "Keele and City" (*THES*, November 8) makes a good case for innovation in educational structures but narrows the terms of debate on the future of universities.

There is, and remains, no justification for restricting university education as narrowly as is done in the UK. Even if the new institutions you argue for each doubled their intake they would make only a small contribution to righting the lack of university education for many people who ought to have it.

By now economic restrictions are so well known and operative that the future of university education is considered as if it bore little relation to the lives of the people and the future of the country. No one argues that education should grasp resources belonging, say, to the health service - indeed if anything the scandal of the run-down of the welfare state is a bigger by far than that of the denial of higher, and in this case university, education to even a quarter of the young people of the country.

But it would be misplaced deference to fashion to pretend that monetarism, which has failed, should dictate the future of generations - or at least the future existence of universities like Keele and their service to the community. The truth is, as for example, Ireland long ago saw as the report *Investment in Education* showed, that the people, not government fashions, should be the object of policy.

Yours sincerely,
NORMAN COLES,
161 Colney Hatch Lane,
London N10.

Engineering rise

Sir, - Your front page article on engineering recruitment (*THES*, November 8) contains at least one error of fact that South Bank, one of the eight polytechnics which has received money in the second part of the Government's £43 million switch programme, did exceed its National Advisory Body "first year" recruitment target for 1985/86.

South Bank has enrolled 890 full-time equivalent first-year engineering students, which is an increase of 21 per cent on 1984/85 and compares with a NAB target of 800.

TERRY HARVEY,
Deputy academic registrar,
South Bank Polytechnic,
London SE1.

Sir, - Your article on engineering places was rather misleading as far as mechanical and computer aided engineering at the Polytechnic of Central London is concerned.

This year we recruited over 90 students into our BEng and HND courses. This represents our best intake in about 10 years and it means that we will achieve our NAB target.

Yours sincerely,
KEN RIRD.

Caught out?

Sir, - Richard Bales's effort (*THES*, November 8) to explain the strange chronology in Philip Thody's *Don's Diary* (*THES*, October 25) has suggested a solution to another feature of it that had been puzzling me.

Professor Thody records details of four trips to the loo between 6.41 and 11.47 but this is followed by nearly 12 hours of apparent abstinence until 23.20. Is this to be explained by inaccuracies in his recording (other examples of which have already been noted) or by some erratic physiology?

No, a more plausible explanation is prompted by Bales's hypothesis; perhaps the same enthusiastic work on the Proust lecture that freed Thody from time had actually begun the day before the diary entry and been accompanied by a plate of marmalade washed down with lashings of limeflower tea (noted for its diuretic properties) in an effort to get into the mood. Could Philip Thody please confirm this hypothesis or is it altogether too recherché?

Yours faithfully,
PETER BARNES,
School of Education,
The Open University,
Milton Keynes.

Wrong strategy

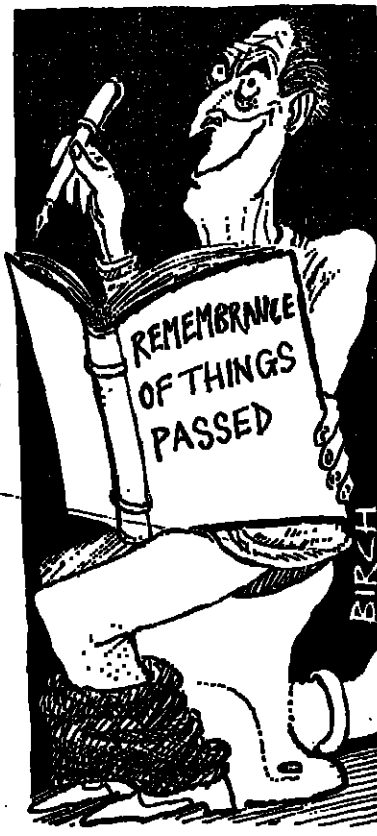
Sir, - Before your correspondence page is flooded with shouts of "Hey, reef!" from those lamed or hailed by the STBAC report, one misleading paragraph in Olga Wojtas's preview (*THES* November 8) needs correction. The crucial word in the invitation for submissions to STBAC is "strategy". It appears three times in the first 12 lines of the secretary's letter of 20 August 1984, inviting submissions of written evidence.

It is also the very first item in the full terms of reference, before the two referred to by Ms Wojtas: "To consider and report on the future strategy for higher education in Scotland, including the arrangements for providing institutions with financial support and the general principles which should govern relationships between universities and other institutions..."

The article implies in at least one place that your correspondent has got behind the Staline security surrounding STBAC. Let us hope that her lapse does not mean that the council has succumbed to paralysis of the future nerve: that, having been asked to set their minds to overcoming the obstacles likely to confront the education of future generations, they have confirmed their advice to "rationalizing" resource allocation among existing institutions.

For all the militaristic connotations of the metaphor, "strategy" at least implies moving forward with eyes open. We shall see how much of this intention emerges.

Yours faithfully,
DESMOND RYAN.



Mapping costs

Sir, - Professor Rhind's article "Maps on Data" (*THES*, November 1) provides an excellent picture of where we are now, and flies some interesting kites on the future. It also states quite correctly that the real rationale for digitizing maps lies outside the Ordnance Survey - the costs involved far outweigh any benefits we could enjoy in-house.

Digitizing is to some extent an act of faith, justified by the belief that sufficient users will need data of this type in the longer term. There is, of course, a temptation to delay; to wait for more technology to come along and reduce the cost and complexities currently involved, and for user requirements to crystallize so that "we get it right first time".

However, we recognize that the very act of creating digital data helps to provide answers in both these areas, but do not believe that to rush into it would be a responsible way to spend public money, apart from anything else, it would involve the diversion of resources from providing products and services needed today, and by all our users.

Yours faithfully,
J. P. LEONARD,
Ordnance Survey,
Southampton.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them.

Social work challenge

Sir, - We are concerned that the recent statement by the Central Council for Education and Training in Social Work about future plans for qualifying training is being seen in some quarters as an attack on the future contribution of universities and polytechnics in this field. We wish to place on record the categorical view of ourselves and the organizations we represent that, far from reducing the role of higher education in this area, we would wish to see a considerable development. We consider that the CCETSW proposals support this position.

At a time when the nation's social problems present a daunting challenge to national leaders and social service agencies, it is clear that we need to attract into social work people with a range of different skills and personal abilities, including mature persons with extensive life experience and graduates with the ability to combine their academic social work training with compassion and understanding based on realism. The management of the personal social services is now a major task in its own right and demands a steady inflow of those with the highest ability, who need an intellectually rigorous and challenging training. Universities and polytechnics also have major roles to play in developing the current woefully inadequate post-qualifying training programmes and in pursuing applied research to assist the development of practice.

It is right that qualifying training for any profession should be reviewed to meet changing circumstances. The outcome of this review should be a more effective pattern of training based on constructive partnership between the academic institutions and social service agencies.

Yours faithfully,
JOHN GRANT,
Honorary secretary,
Association of Directors of Social Services.

DAVID N. JONES,
General secretary,
British Association of Social Workers.

DICK POOR,
Honorary secretary,
Association of Directors in Social Work.

DICK CLOUGH,
General secretary,
Social Care Association.

Church teaching

Sir, - Your second leader of November 1 expresses surprise that the Bishop of London has written to the Prime Minister in defence of the Anglican colleges. "The result is confusion", you claim, since the churches had been losing interest in their charges.

There was no confusion before November 1. All the churches, through their distinctively Christian colleges, are making a contribution to the well-being of society as a whole. They wish to continue that contribution and, in conjunction with the local authorities through the National Advisory Body, to play their part in planning the curriculum of the future. To do so they are determined to preserve their colleges as centres of Christian influence in higher education. The Voluntary Sector Consultative Council, with the support of the Association of Voluntary Colleges, has already made these points clear.

In cooperation with the NAB - with very adequate representation on board and committee - and in encouraging colleges to serve their local communities the churches are extending the means by which their aims may be fulfilled. Confusion arises only if co-operation and community service are regarded by your leader, or indeed by anyone, as signs that the churches are losing interest.

We welcome your final statement, in support of our true position, that the issue deserves to be debated with both concern and passion.

Yours faithfully,
BISHOP JOHN GIBBS,
Chairman,
Association of Voluntary Colleges.

NAB calls for time on teacher training

by John O'Leary

The National Advisory Body has accepted the demand from Sir Keith Joseph, Secretary of State for Education and Science, for a new review of teacher training but is defying him on the timing of the new exercise.

Mr John Bevan, the NAB secretary, announced the decisions in a letter this week to Sir David Hancock, permanent secretary at the Department of Education and Science. He said that it was not possible to give new advice by Easter, as requested, and also rejected Sir Keith's proposal to take places from a particular group of colleges to provide an intake for Hertfordshire College of Higher Education.

While recommending an intake for Hertfordshire by scaling down primary numbers throughout the country, he challenged the wisdom of offering the college a reprieve for next year.

"Members understand the Secretary of State's letter clearly to suggest that he is disposed to accept advice on the closure of the college's intakes at the earliest convenient date," Mr Bevan wrote.

"In these circumstances, they find it difficult to see how either standards or

morale will be encouraged at the college, and consider it likely that few aspiring teacher training students, if any, will be advised to apply to the college."

Revised advice could not be produced by Easter without running the risk of serious criticism on the period available for consultation, he said. But the principal reason for rejecting Sir Keith's desire to integrate the planning of teacher education with its deliberations on the shape of public sector higher education as a whole.

The results of the review, consequently, will not be known until some six months after Easter. Mr Bevan said the committee found that Sir Keith's arguments for an early announcement did not seem persuasive.

The committee considered refusing to undertake the new review, leaving the DES to undertake its own rationalization and standing by its original advice. But it was decided that the balance of advantage lay in reconsidering the proposals as part of the full planning exercise for 1987/88.

Leader, back page

Spending targets fall short of current estimates

Overall Government spending on education will drop next year even before allowing for inflation if targets within this week's autumn statement are met. Although the education budget represents a 3.8 per cent increase on last year's plans, it remains well below the estimate for actual spending in 1985/86.

The intention is to keep up the squeeze on local authorities to reduce spending, particularly in schools and non-advanced further education. But higher education, on both sides of the binary line, will have to make further economies.

UNIVERSITIES: No addition to the recurrent grant for 1985/86 despite negotiations on national insurance and clinical salaries. A recurrent grant of £1.342 for next year represents a 2.5 per cent increase, confirming provisional figures.

Allocations to the UGC for selected research centres to increase from £7 million to £10 million per year, with a third year added to the programme. General equipment grant to go up by £2 per cent, to £95.1 million.

An extra £1 million next year and £2 million in the following two years for the Computer Board to enhance the Joint Academic Computing Network (JANET).

ADVANCED FURTHER EDUCATION: The pool for polytechnics and colleges confirmed at £661 million, including £1 million for their part in the switch programme. This represents a 6 per cent increase.

Voluntary colleges' pool set at £45.4 million.

Cuts threat prompts protests

Social scientists from universities, polytechnics and colleges are to lead delegations to the University Grants Committee and the National Advisory Body before Christmas, to protest at threatened cuts in their subjects.

Members of the Association of Learned Societies in the Social Sciences, whose members are spread throughout higher education, will visit the NAB later this month and the UGC's social science subcommittee in December. Members of the heads of polytechnic and college social science departments group are also to visit NAB before the end of the year.

All plan to argue against the treatment of social science in the government's Green Paper on the future of higher education, and the UGC and NAB's plans for the protection of science, engineering and business subjects at the expense of social science.

The ALISS delegation to NAB will argue that the assumption that social science should not be restricted in the

SWITCH CASH: Money transferred to the DES budget from other departments confirming the continuation of the Engineering and Technology Programme until 1988/89 and beyond.

STUDENT AWARDS: An extra £25 million to be spent next year, £23.5 million in 1987/88 and £21 million in 1988/89 because of increased student numbers and a higher proportion of mandatory award holders.

SCIENCE: A budget of £614 million means an increase of £15 million - exactly what the Advisory Board for the Research Councils asked for. A similar increase in the following two years falls short of the ABR's bid.

HUMANITIES AND SOCIAL STUDIES: Almost £500,000 will be made available to the British Academy in each of the next three years to fund 25 fellowships annually in the humanities and social sciences. It is the mirror image of a scheme for the natural sciences run by the Royal Society.

NON-ADVANCED FURTHER EDUCATION: More than £100 million to be transferred to the Manpower Services Commission. Staff/student ratios to be tightened from last year's figure of 8.5:1 to about 9:1 in response to criticisms by the Audit Commission.

IN-SERVICE TRAINING: A grant of £22 million made for 1986/87, concentrating on management training for further education lecturers, as well as preparing for the new General Certificate of Secondary Education and helping teachers on microelectronics and ethnic minorities.

public sector did not seem to have been in any way discussed, according to ALISS secretary Dr Vicky Randall. "There has been no debate about it at all," she said.

Professor John Eldridge, former ALISS chairman, told an ALISS meeting that the Green Paper never defined what it meant by "vocational" subjects - a point that should be made to the UGC.

It was clear that social science had a crucial contribution to make both to developing general intellectual skills and in promoting understanding of the social context within which more "technical" expertise was to be applied, he said.

Yet social science departments were expected to improve teaching standards and respond flexibly to changing patterns of student demand, pursue research more effectively and maintain links with the local community all the time their real resources were being



An attentive Sir Keith Joseph, Secretary of State for Education, scrutinizes the work of the centre for biochemical engineering and biotechnology at University College, London.

Sir Keith had been invited by University College to tour the faculty of engineering and examine some

of its work conducted in conjunction with major industrial firms.

He is pictured with Professor Malcolm Lilly, left, director of the centre, and Mr Ian Baker, centre, the college secretary.

Space posts confirm shift in cash control

by Jon Turney
Science Correspondent

Senior appointments in the new British National Space Centre will confirm a shift of control over funds for pure science in space from the research councils to government departments.

The two directors for the centre, to be announced next week, will both come from ministries. Mr Jack Leeming, head of the Department of Trade and Industry's space division will become director for policy and planning. A second director for technology and applications is virtually certain to come from the Ministry of Defence.

Both will answer to a director-general, likely to be Dr Roy Gibson, a consultant to the DTI and former director of the European Space Agency in Paris.

Although two of the five research councils, the Science and Engineering and Natural Environment Councils, will contribute substantial funds to the centres, their influence will be confined to more junior appointments and to representation on a board of management.

The National Space Centre, to be based on the site of the MoD's Royal Aircraft Establishment at Farnborough, although outside the security fence, was first announced by Mr Geoffrey Pattie, minister for information technology in the DTI, last January.

Since then, the shape of the centre has been under negotiation between the main government interests involved, including the industry and defence departments and the research councils.

Most of those asking for new deals say they want one based on the Sheffield agreement and certainly with no more restrictions. Some have asked for more: Leicester's academic board wants the poly to award its own degrees as well.

Membership of the Association is open to all university staff on academic and related scales - including contract research staff.

Research staff on short term contracts too often get a poor deal from their universities. AUT, the union recognised for contract research staff, campaigns for a better deal.

In many universities basic employment rights (such as the removal of 'waiver clauses') are being achieved through AUT action. Many serious problems and unfavourable conditions of employment remain - join the campaign for a better deal.

JOIN A U T NOW!

For details of membership and application forms write to or telephone: John Akker, Deputy General Secretary, AUT, United House, 1 Pembridge Road, London. W11 3HJ. (Tel. 01-221 4370)

DON'S
DIARY

FRIDAY

This is the second Don's Diary I write from Klagenfurt, in Austria. The first was exactly five years ago. I came here after the first DUEI (Development of University English Teaching) workshop. Since then, DUEI has developed, and together with some of the Austrians I met here five years ago, we have set up DIA, the first DUEI in Austria, an application of the DUEI idea to English as a foreign language and culture.

This six-day workshop has been a long time in preparation and tonight the Anglo-Austrian staff begin the final planning session. It's a rugged affair. People are tired from travelling, preoccupied with problems left behind but not forgotten. We don't know each other very well. One member won't arrive until tomorrow. The atmosphere of our previous planning meeting at Brighton hasn't carried over. There are problems about getting into rooms (Klagenfurt University is immaculate and security-conscious). The sheer difficulty of getting a group of people to be physically and mentally present seems huge. I hope for better things tomorrow.

SATURDAY

The sun helps. The eighth member arrives and slowly, mysteriously, a working group comes together. We spend time planning in detail the introductory session so that the participants will be helped to get over the dislocation we all felt and which must be common to all groups starting life in a strange place - students for example.

SUNDAY

Suddenly there they are - 25 participants, mainly from Austria, but also from Britain, Germany, Poland, Yugoslavia. There has been one withdrawal but also a replacement whose surname begins with the same letter. She fits on to the list neatly and we think it a good omen.

My first session is improvisation. I use the last scene of *Henry V* (Henry's wooing of Katherine in broken French). My fear is that it won't catch on. But we get highly inventive sketches. All dramatize the power relations. No one sticks up for Henry and I'm too nervous to dissent and say that Henry may have Katherine as booty thanks to Agincourt but that he wants more than that. Everyone seems to want to turn Henry's statement upside down: "Nice kings curtsy to great customs".

MONDAY

A linguistics morning some of which I spend in a group listing all the references of "we" in a speech by Mrs Thatcher (from everyone who has ever lived on these islands to Mrs Thatcher herself). The workshop seems exciting, full of energy and inventiveness. Paradoxically, at our 10.00 time meeting, the staff group is irritable and unsettled again.

We decide to spend 30 minutes telling each other individually the specific things which have caused resentment. From this point on it seems we have a cohesive working group. What, I wonder, would be the effect in a university department of setting aside time for articulating resentments? The risks are higher but what of the consequences of years of unspoken hostility? On the other hand I take seriously the comment of one participant this workshop is refreshingly free from intellectual snobbery but she detects what she calls "emotional snobbery", people feeling superior because they can articulate feelings.

Colin Evans

The author is senior lecturer in French at University College, Cardiff.

TUESDAY

Cultural studies sessions - first on *Rebecca* and Mills and Boon, then on TV news coverage of the Falklands war. The Falklands we discuss in all-male and all-female groups, with the male groups divided into British and non-British. The basic point behind these sessions is that reality is not given but constructed, that things are not what they seem but only what interpretation makes them. In the afternoon reflection group this idea is resisted strongly. DUEI is not about getting extra knowledge and skills but about changing the context in which skills are organised. It's not easy. The evening is free and some of us drive to watch the sun go down behind mountains stacked in order of blueness.

WEDNESDAY

Syllabus-free language-learning. We try out an activity which breaks all the language-learning rules - no graded difficulty, learners of all abilities mixed. It relies on the idea that people will only really learn things which are meaningful to them and that teachers should not propose activities which they would not be interested in doing themselves. Also that the most interesting topic for all of us is ourselves. So in pairs we guess things about each other. One participant tells me that if I won the pools I would buy a big house and surround myself with dogs. I don't protest (though the idea of dogs appeals me - cats perhaps). She is telling me something - though I don't know what.

THURSDAY

We do "subjective criticism" (à la David Bleich) on Frost's *Mending Wall*. An amazing demonstration of the dissimilarities of male and female response: the men identify with one or both of the male characters and recall male relationships; the women identify with the "something", with even the wall. The notion of what is a "male text" is made very clear. A student expresses powerfully her anger at having constantly to pretend to approve of male texts. Henry V, *Falklands*, Mrs Thatcher, Frost: there are a lot of male texts in this workshop and *Rebecca* is hardly a counterweight.

A meeting with the contingent from Graz, in the sunshine. They may take on the organization of the next DIA. I try to steer a course between encouragement and making sure they know what they are letting themselves in for. I find myself saying that the greatest satisfaction is being a member of a colleague group which feels a commitment to the workshop rather than to any individual contribution.

This is the heaviest day. It culminates in the final session of the "inter-group event" which was designed as an experiential activity for the exploration of group differences - race, nationality, gender. Barry Palmer has invented a completely new version of this traditional group relations event - involving planets and inter-galactic space. Whole new cultures are invented, including a wordless one on Venus. We'll give up this "serious play" with reluctance. "Some people haven't played for years," says one participant.

The quotation from Doris Lessing in the programme seems to sum up the event and perhaps the workshop: "My experience is that discussion is fruitless. What sets forth and demonstrates is the sight of events in action, is living through these events, and understanding them".

FRIDAY

We write: letters and autobiography, trying to make bridges between this experience, this intense world and the one to which we are returning. There is an exhibition on in Vienna - *Traum und Wirklichkeit*. Which was this workshop - Dream or Reality?

Plan to waive entry rules

by Olga Wojtas

Scottish Correspondent

Strathclyde and Glasgow universities hope to admit about 90 students without normal entrance qualifications next year.

Strathclyde senate has agreed to launch a four-year scheme admitting about 30 students, 2 per cent of its normal student quota, who do not have normal school examination passes.

The university says its decision stems from concern at the extent to which university selection procedures are dominated by the candidates' examination performance, with entry standards being forced up to unprecedentedly high levels through increased competition for places.

Mr Ronald Crawford, Strathclyde's registrar, said, "There are other forms of ability which cannot be assessed by

formal academic examinations, qualities such as enterprise, creativity, determination or leadership. Few would dispute the contention, for example, that the most highly qualified school-leavers do not necessarily represent the best potential lawyers, doctors, teachers or engineers."

Strathclyde has not yet said how it will assess students under the new scheme, but Mr Crawford said it would be a rigorous selection, including personal interviews, which are not normally conducted by the Scottish universities.

Glasgow senate has approved a scheme to set aside 50 extra student places for school-leavers in Easterhouse and Drumchapel, deprived areas of Glasgow.

The students would be expected to meet the university's minimum entrance requirements, but individual

faculties would then waive the "entry rate" requirements for entry, which have been rising substantially.

The proposal has to go to the University Grants Committee because Glasgow is anxious not to cut places for qualified students, and wishes the extra 50 to be outside its quota.

The scheme was originally proposed by Strathclyde Regional Council's director of education, Mr Edward Miller, and the region is also offering the new students an "away from home" grant as an added incentive, which could be some £400 a year.

If the UGC and the SED back the scheme, the region will also consider setting up preparatory classes before the students come to Glasgow, with academic and guidance back-up during their first year.

Lords bid for science aid rejected

The Government has rejected the main innovations proposed earlier this year by a House of Lords committee to reforge education and training for new technology in Britain.

Last January, the Lords select committee on science and technology said there should be a new education and training board for new technologies, attached to the Science and Engineering Research Council, to fund courses and assess future skill needs.

The Government response, published this week, says better coordination of effort can be achieved without new machinery. And it also rejects two other major recommendations - for extra tax concessions to encourage companies to donate cash to educational institutions, and for a national training levy across all sectors of industry and commerce.

The Government argues a levy would create a new bureaucracy and reduce companies' autonomy, and that existing tax concessions go far enough if they are properly publicized.

But it accepts the general thrust of many of the committee's other recommendations, pointing to measures already in hand in schools, colleges and universities to increase the supply of technically trained people.

There is no answer to the committee's strong plea for additional spending to increase training places. While the Government cites increases already granted for engineering and technology places in higher education, and in the science vote and the University Grants Committee's equipment grant, it does not foreshadow any new initiatives.



Pulling together: Sheffield City Polytechnic principal John Stoddart, a former member of the British rowing squad and Henley finalist, tests one of the poly's new rowing ergometers with BEd student rowing club captain Sheena Groves.

Mature students to try US assessment scheme

by Maggie Richards

American interviewing techniques devised to test mature students' potential and eligibility for higher education may be tried out in Britain.

A proposal to launch a pilot project, financed by the Department of Education and Science, was being discussed yesterday by the Unit for the Development of Adult and Continuing Education.

Mr Stephen McNair, head of the unit, has just returned from a visit to the United States to study the system there, and the way it is applied at American universities.

The "student potential programme" established at some American institutions provides carefully structured interviews designed to identify personal traits and factors which motivate a particular student. A profile is then compiled to show which higher education courses each student might find most beneficial.

Sponsored in America by the Kellogg Foundation, the scheme is administered by a central agency, the Council for Adult and Experiential Learning, which monitors results to ensure that standardized procedures are followed.

At American institutions the system is combined with assessment of mature students' prior learning. But if the

UDACE project is given the go-ahead, it will concentrate solely on devising a British system of quantifying student potential.

In the American programme students are asked at an interview to furnish brief descriptions of achievements in their lives, relating to their families, jobs, education, voluntary work and recreational activities. The questions are carefully structured to draw answers on a 16-point plan which is matched to a pattern of characteristics.

"The programme identifies the areas in which people feel committed," said Mr McNair. "We often underestimate the extent to which peoples preferences in the education system do depend on that factor. We do not measure motivation, which can play a large part in determining success."

The programme sets out to identify what the student wants to learn, and helps the student to approach that more positively. It gives the student a much clearer understanding of what he or she wants ultimately to achieve, which makes success more likely," said Mr McNair.

A British project would examine ways of using the programme as part of an educational guidance and counselling service for adults, and investigate the feasibility of using it as an assessment procedure for mature students entering higher education.

Some disorders as Down's Syndrome and Turner's Syndrome.

Chromosomal aberration was one of the commonest causes of miscarriages, he said.

A rival group "Progress and Humanity", supportive of the Powell Bill and headed by Conservative MP Sir Bernard Braine, claims pledges from 36 MPs to introduce another private bill to ban experimentation on embryos would increase knowledge of the causes of such common chromo-

RM NIMBUS WINDOWS
WIDEN YOUR VIEW

Windows,* the latest software advance from Microsoft, lets you look at computing in a new light - and RM Nimbus, with its brilliant graphics, makes the most of this new facility.

Now you can run MS-DOS packages, several at a time, each in its own window. You can work on your spreadsheet without having to leave your database system, and by using the mouse to point your way around the on-screen icons, you don't have to remember file names or look up operating system commands.

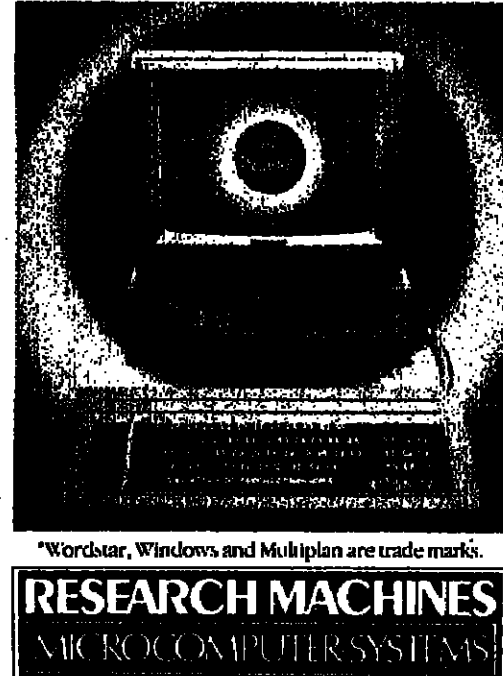
You can create reports by pasting in different data from different packages by different suppliers. For example, you can write text with MicroPro Wordstar* and integrate it with spreadsheet figures from Microsoft Multiplan.* And then illustrate your

report with diagrams and headings in special fonts using facilities provided free with the operating system.

And this is just the beginning. Software vendors are working on a new generation of applications to exploit the outstanding graphics and ease of use made possible by Windows.

This advanced environment needs extra processing power, ultra fast graphics and a large main memory to be effective. With its 8MHz, 80186 processor, up to 1Mb of addressable RAM and custom colour graphics chip, Nimbus makes Windows work for you.

Windows on Nimbus. The natural choice. For further information, contact Research Machines Ltd., Mill Street, Oxford OX2 0BW. Tel: Oxford (0865) 249866.



*Wordstar, Windows and Multiplan are trade marks.

RESEARCH MACHINES
MICROCOMPUTER SYSTEMS

V-c voices bitterness over OU cuts

by Maggie Richards

The Open University will be forced to consider cuts to its sacrosanct undergraduate programme, if the Government insists on further financial reductions.

Dr John Horlock, the university's vice chancellor, has warned that the quality of undergraduate provision is now in danger. If the OU goes any further in making overall economies, it will now be forced to axe courses, he said last week.

Dr Horlock also attacked the Government for its failure to fund the OU's continuing education programme. In particular, it had got the university's programme of updating courses "on the cheap", he declared.

The vice chancellor's statement on the OU crisis followed the first Ritchie-Calder memorial lecture, given by Lord Briggs, the OU chancellor, who reviewed the past achievements of the university and contemplated its development in the 21st century.

To set the scene, Dr Horlock said the OU now had 70,000 undergraduates and no sign of diminishing demand; success in attracting outside investment in research; and a big surge in vocational education which now made the OU the biggest training agency in Britain.



Lord Briggs: memorial lecture

"It is interesting that it is the newest of universities, the OU, which has made the major contribution to continuing education," he said. "I think we now have a total number of students following professional and vocational education post-first degree courses which is greater than the number in all the other universities put together. This is because distance teaching is the best mechanism for updating large numbers of people."

Such developments had taken place

against a background of severe reductions in Government funding, probably about 14 per cent overall. The university had reacted by making a huge effort to become more efficient, increasing fees, and seeking external funding.

But the breadth and consequently the quality of provision was now at risk, said Dr Horlock. "For example, as a mechanical engineer I feel that the number of courses we offer in that discipline are at the absolute minimum for a first degree - indeed there are many topics which I am concerned that we do not offer. I am sure the position is similar in other disciplines."

But if the further funding reductions which so far have been limited to us are continued, it would appear that we may have to cut the range of our undergraduate teaching."

The university could not go much further in general economies, he said. Alternatively, the OU could consider cutting back on new continuing education developments, or on research. But continuing education had been virtually self-financing and more restricted at the OU than at conventional universities, permitted to use grant aid for such purposes.

"Frankly, I feel quite bitter about this. Government has got the OU updating programme on the cheap. It has got it because the OU has entered

the field with great enthusiasm, accepting a considerable extra load," said Dr Horlock.

In his lecture, Lord Briggs recalled his work alongside Lord Ritchie-Calder on the planning committee prior to the establishment of the OU. Lord Ritchie-Calder, who died in 1982 after a distinguished career as science writer, lecturer, and civil servant, had viewed the OU not so much as an experiment, but as a necessity, creating opportunities for those who had missed the chance or appreciated for the first time what was possible, said Lord Briggs.

Given the OU's dedication and adaptability to change, recognized by the Government's Green Paper, it should not need to spend so much time grappling with major cutbacks, but should be free to concentrate on a long-term strategy in the national interest and continue to play a vital role in the early stages of the communications revolution.

"Whether or not the Open University will play the vital part in the later stages of the revolution will depend on how it responds - or if allowed to respond - to what will, I believe, be an increasing demand in the 21st century for every kind of adult education - of a refresher retraining, even still a remedial type education concerned with life as well as with work."

A longer look at art

The Open University and Channel 4 are collaborating for the first time over a full-scale series on art appreciation with the National Gallery and Christie's Fine Art. The idea was prompted by a survey which showed that the average time spent in front of a painting by visitors to the National Gallery was six seconds.

The package aims to extend general interest in visiting galleries and looking at paintings. To widen the field of students, a six-part series on Channel 4 complements the written and audio material which has been produced by the OU.

More awards

The number of awards for overseas students under the Overseas Development Administration shared scholarship scheme will be increased from 50 to 100 in 1986/87, Mr Timothy Ralston, the minister for overseas development, said in reply to a parliamentary question. A further 100 awards will be available in each of the following four academic years.

New rector

Mr Stanley Adams, who last week won his battle against the European Commission for failing to protect him after he exposed corrupt practices in the Swiss multinational company Hoffman-Laroché, has also won the battle for the rectorship of St Andrews University. He polled 822 votes, 179 more than his closest rival, former Scottish National Party MP Mr George Reid.

Export experts

Stirling University has joined forces with KMG Thomson McLintock, one of the world's largest accountancy practices, to help small Scottish firms in the export market. The scheme will operate through the Scottish Enterprise Foundation and help companies with market research, in-company counselling and manager training.

Royal post

Professor John Thomas of King's College, Cambridge, has been appointed director of the Royal Institution in London, a post once held by Michael Faraday and Humphry Davy. Professor Thomas, a physical chemist, succeeds Sir George Porter, who has been nominated as the new president of the Royal Society.

Young Returner Grant for young people coming back into further education.

Such a programme would not be cheap. But as the House of Lords Select Committee on Overseas Trade Report shows, the clock stands at five minutes to midnight for Britain's young people and our industrial and economic prospects. The 1980s should have been an opportunity for industrial regeneration, the reequipping of the manufacturing base and the training and retraining of a highly-skilled workforce financed by the oil revenues.

Our golden decade has been wasted; the missed opportunities of the 1960s will be Mrs Thatcher's epitaph. Yet even now the chance is there to be taken by a Government which seriously believes in investing in the knowledge, intelligence and imagination of the British people. Nothing short of such a massive effort can raise the proportion of our young people participating in education and training and close the qualification gap which is our severest handicap in the harsh world of international industrial competition. Such a programme is the only means of giving hope to our young people and to all our nation.

Ian Wrigglesworth

The author is Social Democratic MP for Stockton South.

Anything you can do...

You never think your successor does the job as well as you did it yourself and it is the same with University Grants Committee chairmen.

Sir Edward Parkes, former UGC chief and now vice chancellor of Leeds University, gave a frosty reception to Sir Peter Swinnerton-Dyer, the present UGC chairman, at a UGC visitation to Leeds last week. The UGC is not the stalwart and sensible body it was in his day, indicated Ted. You completely misunderstand what we are trying to do, retorted Peter. I wonder what they said to each other in private.

A severe case of terminological incoherence. Dr Bob Smith, director of Kingston Polytechnic, on a question from this newspaper about the poly's academic plans: "I am not going to cut social science. You are not to say we are cutting social science. There will be a measure of reduction..."

Body snatchers?

Higher education's annual head count, the Further Education Statistical Review, which took place last week, was for the first time organised by the National Advisory Body and not the Department of Education and Science, since both agreed the NAB could do it quicker. On the other hand, NAB secretary John Bevan might want to be a bit wary about outdoing the mandarins too often. He could end up joining them. It has emerged that leading up to Sir Keith Joseph's order to the NAB to carry out its teacher-training rationalization exercise all over again, the mass resignation of NAB members was anticipated by officers in the DES. In which case there were emergency plans to take Mr Bevan, and all his staff, on to the payroll of the department.

Sir Alex Jarratt and his efficiency study cronies really ought to understand how difficult it is for the universities. Lord Flowers, vice chancellor of London University, proposes to his senate a modest improvement to efficiency. Items would be stored or unstored. The unstored would not be discussed unless a senator gave notice. "An attempt to muzzle senate," they cried and chuckled it out.

Fired with enthusiasm

Sir Norman Lindop, chairman of the Government's inquiries into data protection and public sector degree validation and principal of the British School of Osteopathy, made a quiet exit before the end of the Manchester conference where he was keynote speaker.

A top level appointment? A meeting on the fate of his validation report with Sir Keith? No - he wanted to be sure of being on time for his beginning pottery class near his Hertfordshire home, where his first pots were due to come out of the kiln that night.

AUT to hold strike ballot

by Peter Aspden

University lecturers are to be balloted on whether to take strike action in support of this year's pay claim and in protest against the Government's cuts in university funding.

An emergency council meeting of the Association of University Teachers voted by more than four to one to hold the ballot next month. Members will be asked if they are prepared to withdraw their services for up to two full days - a national one-day strike on January 15 and a further series of regional stoppages later in the term, to be held on different days.

The union's general secretary, Ms Diana Warwick, said the decision was a historic one. "It will be the first time in our 70 years of existence that a proposal for strike action has been put to the membership," she said.

She told the council meeting in London the union was pitted against "a foe of considerable resilience and determination. We are slowly being brought to our knees by Government policy and it is up to us to engage in battle on behalf of, and for universities."

"This fight is not primarily about the money in people's pockets, it is about the damage done to the university system and getting a fair deal and respect for university staff."

She said the union's fight was not

just against the Government and the University Grants Committee - "vice chancellors also have a good deal to answer for. At last they have shown themselves in their true colours".

Ms Warwick criticized plans by the Committee of Vice Chancellors and Principals to shake up the university salary structure, which included the abolition of the senior/junior ratio and the introduction of performance appraisal criteria.

"The plan has been introduced to gain brownie points from the Government, but there is no sign whatsoever that Sir Keith Joseph has been impressed." She said the proposals were "laughable in their ineptness, an insult to the profession and all stick and no carrot."

Despite the emphatic victory margin

for the strike ballot, there were many criticisms of the planned action from council members. Dr Peter Leggate, from Oxford University, said the strike would be an ineffective sanction, as the Government could afford to ignore it.

He also said if the call for a strike was defeated, the union would be in an even worse position than it is now because of the message that would be sent to the Government. He called for a nationwide campaign similar to the one which was mounted against proposals to impose VAT on books and periodicals earlier this year.

However, Mr Nick Fisher, from Aberdeen University, said he favoured a more coercive campaign, which could culminate in the threat to withhold examination marks at the end of the academic year.

Scots step up action on pay

Lecturers in Scottish central institutions this week took industrial action for the first time with a work-to-rule in support of their pay claim.

Meanwhile, selective strikes by the further education section of the Educational Institute of Scotland spread from Strathclyde region to Fife, with Lothian, Tayside and Grampian regions expected to be hit next week. The action follows the staff side

rejection at the Scottish Joint Negotiating Committee of a 5.9 per cent pay offer, and management rejection of a staff claim for restructuring of salary scales.

The Association of Lecturers in Colleges of Education in Scotland and the Scottish Further and Higher Education Association are also working to contract, but an SFHEA ballot has rejected strike action.

Right retains control of FCS

Sweeping changes aimed at diluting the control by the extreme right over the Federation of Conservative Students have been dropped by the parent party.

A new constitution backed by the executive committee of the National Union of Conservative Associations yesterday will leave the FCS firmly in the hands of the right.

Its supporters in FCS are confident that the party faction under which moderates and anti-libertarians have come together will be unable to remove them from power.

A major reform was suggested earlier this year by an inquiry after the FCS conference at Loughborough last Easter.

But attempts to give moderates a greater voice in the organization have been more than offset by dropping proposed postal ballots for the election of the chairman, two vice chairmen and five elected members of the national committee.

Instead they will continue to be elected by the national conference and the right believe that they will secure all eight places. This would allow them to maintain a majority on the controlling general purposes committee with a voting strength of 16 or 17 out of the 20 votes.

Poly network launched

by Karen Gold

Staff in polytechnic teacher education departments are planning to set up their own research network to encourage collaboration and wider knowledge of existing research projects.

The move was proposed by the Polytechnics' Council for the Education of Teachers. It comes as staff in teacher education departments in polytechnics and colleges argue that they have been excluded from national research awards, particularly from the Economic and Social Research Council.

In a recent round of research awards for teacher education from the ESRC, no polytechnic or college was given any money, even though a number had applied, including a consortium of five polytechnics wanting to study the effects on teacher education of the Government's new Council for the Accreditation of Teacher Education.

The PCET plan at present is to establish a database and information service.

The network would also encourage collaborative research between polytechnics, and share expertise in supervision of research projects.

Professor may sue over PhD rates blacklist

by Jon Turney

A professor at Queen's University, Belfast, is considering suing the Economic and Social Research Council for defamation over its PhD blacklist.

Queen's is one of 14 institutions facing ESRC penalties because the council's figures show that less than 10 per cent of students starting PhDs with ESRC cash in 1979 or 1980 had submitted theses within four years.

Professor John Blacking, of the university department of social anthropology, said this week he was taking legal advice to see if he could bring a suit against the council for defamation. He said the ESRC circular condemned all 14 institutions out of hand, but neither Queen's as a whole nor the anthropology department had a bad record on PhD completion.

He said the harm to the department's reputation could be very damaging if it deterred overseas students from pursuing postgraduate work there.

In a letter to Sir Douglas Hague, the ESRC chairman, Professor Blacking points out his department's programme of research in ethnomusicology involves learning a musical instrument

as well as a foreign language before doing overseas fieldwork. He suggests the application of a four-year measure by the council contradicts the principle of academic freedom, and "is a parody of applied social research which ill becomes the ESRC".

Professor Blacking also says his department gets no credit in the ESRC statistics for several foreign and self-financed students who have completed theses in four years or less. This goes along with figures presented to the council by Queen's pro-vice chancellor, for social science postgraduates funded by the Department of Education for Northern Ireland.

The ESRC move was also condemned last week by the Association of University Teachers annual meeting of contract researchers in London. A motion proposed by a researcher from Warwick University, who does not appear on the initial blacklist, which covers the next two years, said the meeting was appalled by the council's decision.

The motion carried said the decision was arbitrary and divisive, would lead to a decline in postgraduate research standards and should be fought through an AUT-initiated campaign.

YTS 'too much, too soon'

The extended two-year Youth Training Scheme is being implemented too fast, without due regard for consultation with youth organizations. This criticism was highlighted by International Youth Year England this week as part of a parliamentary lobby.

Under the banner heading "A Fair Deal for Youth", 150 representatives of IYY groups throughout England lobbied MPs in the House of Commons for clear policies to increase educational and training opportunities, combat record levels of youth unemployment and homelessness and reduce discrimination and the threat of nuclear war. A declaration, outlining the issues, was presented by a delegation led by IYY co-president Mr Paul Wether-of-the-Style Council, to No. 10 Downing Street.

The main thrust of IYY's criticism is that even though the Government has declared its support for the concept of a youth year, their position has steadily deteriorated during 1985.

The two-year YTS scheme, which will provide the only viable alternative for a high proportion of these school-leavers, was being "rushed through" without adequate time to consult, said the IYY delegation.

PARTY LINE

Good in parts but mainly bad

them new hope. Nor will the 27,660 people in Cleveland who have been out of work for more than a year. As the political debate becomes polarised around law and order, the principal victims of mass unemployment are ignored.

It is ironic that in the same week, the report from the Comptroller and Auditor General appeared which highlighted the damage which Government cuts in university staff numbers had inflicted on science and technology teaching, where targets for staff reductions were exceeded. This is eating the seedcorn with a vengeance.

The Queen's Speech did nothing to tackle perhaps the most urgent and growing crisis of our society - the future of our young people. It is a crisis for the young people themselves who are all too often unemployed, untrained and lacking in any sense of clear purpose about their future. And it is a crisis for the community in that the results of this condition are becoming daily all too clear - apathy, alienation, irresponsibility and civil unrest.

During the last 10 years, the

percentage of 16-year-olds in employment has dropped from 61 per cent to 18 per cent. For 17 to 18-year-olds it has dropped from 78 per cent to 54 per cent. Although the percentage of 16 to 18-year-olds in full-time education has slowly increased, the percentage receiving part-time education or training other than on the Youth Training Scheme has fallen. In each age group, the percentage unemployed rises - from 13 per cent of 16-year-olds to 17 per cent of 17-year-olds and to 20 per cent of 18-year-olds.

Full-time employment is less than ever part of the experience of our young people. To some extent, the Youth Training Scheme has filled the vacuum for 16-year-olds. But the remainder of 17 to 18-year-olds form part of the untrained majority of the workforce which lies behind the now chronic problem of high unemployment combined with skill shortages.

The Queen's Speech should have announced a new crash programme to tackle this. Instead of contemplating tax reductions for those in work a substantial sum of money should be set aside to achieve a big

increase in the numbers entering and qualifying on courses at all levels which are relevant to skill shortage areas, using and improving existing institutions and training mechanisms. Subsidies could be given to stimulate additional apprenticeships, bursaries for students returning to full-time studies after a year or more in employment, YTS or on the dole, and there could be special "retake" courses for students who have failed maths and science at O and A levels.

But even more fundamental reforms are needed to improve access to education and training across the whole age group. A legal obligation on all employers to release 16 and 17-year-olds for education and training for two days a week; an enhanced YTS offering two days a week off-the-job training linked to national qualifications; a shared starter-job scheme, whereby two young people would share a salary, training the other half; the provision of a Young Students Grant, paid direct to the student, for full-time 16 to 19-year-old students, together with the payment of a

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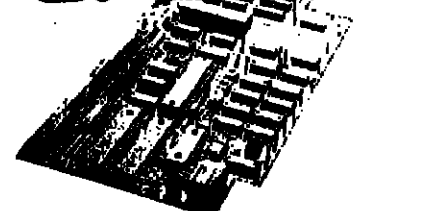
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Cambridge slams science shift

by Peter Aspden

Cambridge University will not accept a further shift of resources in favour of science and engineering if it is at the expense of student numbers in the arts and humanities.

This warning to the Government came in the university's response to the Green Paper, one of the most strongly worded attacks on the document yet produced by a university.

The paper was described in the statement as "short-sighted and inadequate", and was criticized for not providing any financial framework for the future of universities. It also ignored the important financial recommendations of the Jarrett report on efficiency.

"The implication of the Green Paper that higher education, and particularly universities, are in some sense to blame for the problems of industry and business in the United Kingdom is wholly unsupported, and cannot be justified," said the response of the university council.

"We reject the apparent assumption that narrow vocational training at undergraduate level is the best background for the most able students who are to go into industry and business. Such people need a general education, and to develop intellectual adaptability."

The statement said the university would not oppose a further small shift

in the arts-science balance in Cambridge in favour of science and engineering - provided that funds could be made available to meet the additional costs.

"We should, however, not be prepared to accept a large reduction in the number of students reading subjects in the arts and humanities; we attach great importance to strong representation in these subjects in this university."

The council expressed "grave concern" that in recent years an inappropriate degree of competition had developed between, on the one hand, expenditure on science and research and, on the other, expenditure on schools, further education, higher education and student support.

"This raises the question whether the present Government mechanisms for deciding educational and research priorities are adequate, given the need to determine the science budget and the research element of the University Grants Committee allocation."

The response called for special funding if the Government wants to put into effect any major restructuring of the university system, as universities' ability to react quickly to any further cuts was very limited.

It was the "worst kind of false economy" to limit the finances of universities at a time of major scientific, technological and social change, said the council statement.

AMA wants better access

Higher education in England and Wales needs investment on a level with other European countries, but the Government's long-term plans are for continued underinvestment, according to the Association of Metropolitan Authorities.

In its reply to the Green Paper on the future of higher education, the AMA says positive action such as increasing the participation rate in higher education of all 18-plus school-leavers.

The Labour-controlled association fears that the Government's emphasis on concentrating courses in fewer institutions will increase centralized control and take power away from colleges and local authorities. Its paper points out that concentration has been rejected by the National Advisory Body, and will damage access.

The association deplores the Green

Paper's indifference to the NAB's request that the universities and polytechnics and colleges should have equal funding for equal work. The Government's assurance that universities are not the paradigm for all higher education is difficult to reconcile with its rejection of equal funding.

There is a mismatch between aspirations for technology and the "cut-price device" of the Government's "switch" from arts to science places, the paper says. The Green Paper's suggested concentration of arts subjects in universities will also favour traditional rather than innovative courses.

Short-term prospects for financing polytechnics and colleges are alarming, the paper says: in 1986/87, more than 500 significant numbers of applicants were turned away and the bias towards science and technology will mean enormous reductions in funding for less favoured subjects.

Action urged to boost posts for women

by Olga Wojtas

Scottish Correspondent

The number of female academics is unlikely to increase without positive action on equal opportunities.

This is the conclusion of the first of a series of articles on women in Edinburgh University by the women's group of the local Association of University Teachers.

Dr Glensy Davies, honorary secretary of Edinburgh's AUT, writing in the university bulletin, says that the most recent figures, for 1982/83, show that only 12 per cent of full-time lecturers are female.

"It is easy to assume that the present situation is a result of past attitudes and will sort itself out in time," she says. But 50 years ago, 9 per cent of the lecturing staff were women, with this figure rising to 14 per cent during the Second World War, and dropping back down to 9 per cent in 1963.

"The present atmosphere of recession, with so few posts being filled, is not conducive to further change," Dr Davies says.

In 1983, women made up 46 per cent of honours graduates, 39 per cent of those going on to postgraduate study, and 21 per cent of contract research staff. But many departments had no

Open Tech network launched

by Carolyn Dempster

Open learning went on-line this week with the launch of a new nationally networked database MARIS-NET, which will give educationalists and employers access to the entire range of open learning packages for the first time.

The information service is one of several new initiatives by the Manager Services Commission's Open Tech programme which promotes open learning projects for adults at technician and supervisory skill level. Altogether £45 million has been set aside for Open Tech, £2 million more than the SWITCH programme, with 140 projects already under way and an estimated 50,000 people expected to receive training through the projects in 1986/87 when the programme comes to an end in March.

MARIS (Materials and Resources Information Services) was set up in 1983 to provide a computerized database of open learning materials. The extension of the database to a national network means that subscribers will be able to plug in to information on over 7,000 open learning packages at a minimal cost of £100, plus a further 9.5p per minute log on, stated Mr Richard Freeman, director of the National Extension College.

Complementing MARIS-NET is an Open Tech Directory containing information on the programme, grants available, practical training and support services. It will be available at MSC training division area offices, in all of the 1,000 Jobcentres across the country and in public libraries.

Management and new business technology forms the focus of distance learning materials launched by the Business and Technical Education Council this month, another of the open learning initiatives.

The package of eight courses, under the umbrella heading of *Updating for Business* have been specifically designed to meet the needs of working supervisors, managers and technicians who cannot afford to pursue the more formal part-time or day-release/block release courses.

The Duke of Kent, president of BTEC, said the initiative would increase the effectiveness of people in helping British business and industry to be more successful.

full-time women lecturers, and only 4.8 per cent of readers and senior lecturers were women, as were only two out of 104 professors.

No woman was promoted to the post of senior lecturer between 1977 and 1983 although in 1982/83 176 men, 23 per cent of the male staff, and 27 women, 26 per cent of the female staff, were at the top of the lecturer scale.

"Although the university conforms approximately to the limit of 40 per cent of academic staff being in promoted posts, in fact 45 per cent of male academics are in promoted posts compared to 14 per cent of women," Dr Davies says.

Science brain drain 'flowing faster'

by Jon Turney
Science Correspondent

More and more British researchers are leaving their universities, leaving the country, or even quitting their disciplines altogether. The Advisory Board for the Research Councils has told Sir Keith Joseph, Secretary of State for Education and Science.

The claim is based on a small survey of leading university departments carried out over the summer by the ABC chairman Sir David Phillips, to check what he told Sir Keith earlier in the year was the board's "firm impression" that we were losing our brightest scientists at an increasing rate.

Answers to a questionnaire sent to over 40 research groups, including all those shortlisted by the University Grants Committee for special equipment funding bear this out.

A digest of the replies, published this week, says departments are very worried about loss of senior scientists, as well as talented students and post-doctoral workers. The emigres are leaving in search of better opportunities, more money, superior equipment and out of frustration at the problems of winning grants in the UK.

Many find a home across the Atlantic, the report says, because of aggressive recruiting by US universities and industry, and because American com-

panies are more receptive to new ideas.

The report paints a picture of a few centres of excellence offering acceptable careers for the British scientists lucky enough to work in them, with rapid deterioration elsewhere. For example, Dr Sydney Brenner of the Medical Research Council's molecular biology laboratory in Cambridge is reported as still able to attract people back from the USA.

But Dr Brenner says that UK university research has often failed to keep pace with international standards and in many cases has declined irreversibly.

Respondents to the ABC inquiry named five senior biochemists and

eight molecular biologists who had taken permanent posts abroad. Chemistry had also suffered heavily, with 19 leading British inorganic chemists identified who are now abroad, seven organic chemists and six materials scientists. Physics has not been affected so badly, the report suggests.

In addition, most of the respondents were worried about the "internal" brain drain, with chemistry again suffering badly from losses to industry. Academic jobs were judged less attractive than alternatives in industry or the scientific civil service. And the report says "many of the best students are opting for careers in accountancy, stockbroking and insurance rather than pursuing a scientific career".

Newcastle's tribal art on sale to Japan

Proceeds from the sale of a collection of Pacific tribal art by Newcastle University will form an endowment which will be used to fund future research projects.

The sale of the George Brown collection to the Japanese National Museum of Ethnology - expected to raise about £600,000 - looks certain to go ahead despite bitter opposition from the art world.

British Museum trustees have already condemned as "deplorable" the removal of the collection from Britain, while the Museums and Galleries Commission is also looking into the matter.

But the university this week confirmed that the only offer it had received for the collection was from the Japanese museum, and that the sale would continue for the good of international scholarship.

A spokesman for the university, Mr Tony Rylance, said the senate and council had been virtually unanimous in their decisions to sell the collection, "particularly in these hard times". The collection was bought by the university for teaching purposes. Now that there are no academic grounds for keeping it, it seemed sensible to release it to somewhere where it can be properly looked after and displayed.

He said the university was not in a position to pay the costs of providing proper display and conservation for the indefinite future. After several months of inquiry, no other institution, British or foreign, had expressed a definite willingness to buy the collection.

The George Brown collection, named after a Victorian missionary who was born in the north-east, was bought by the university in 1953 for the use of the anthropology department. But the department was closed in 1966, and the 3,000 items in the collection have not been required for any of the university's teaching or research activities since.

Cardiac lecturer quits for post in Saudi Arabia

by Olga Wojtas
Scottish Correspondent

A senior lecturer in cardiac surgery at Edinburgh University has left unexpectedly to take up a post in Saudi Arabia after being refused secondment before next March.

Mr Kenneth Reid, one of the four-strong cardiac surgery team within Edinburgh's department of clinical surgery, asked earlier this year to be seconded for an indefinite period as head of cardiac surgery in the King Fahd Hospital in Riyadh.

Although he is a university employee, he is also an honorary consultant with the National Health Service, and Lothian Health Board opposed secondment until next March since one of the four cardiac surgery posts is

already being held by a locum. But Mr Reid left for Riyadh a few weeks ago without formally approaching either his department or the health board.

A university spokesman said Edinburgh placed great importance on its overseas contracts, but its first priority must be its own teaching and research, and commitment to local health care.

A health board official said Lothian was doing its best to cover for Mr Reid's absence, and had appointed a locum, but was left with the very situation it had been anxious to avoid of having two locums in a unit of four staff.

Edinburgh is understood to have frozen Mr Reid's salary. But fellow academics estimate his Riyadh salary at around £100,000 annually.

Heat is on to stop Liverpool freeze

by Karen Gold

Liverpool Polytechnic could run out of heating oil and its staff stop being paid after the end of this month.

The polytechnic was this week instructed by the city council to tell its suppliers that it could not guarantee future payment for orders. The polytechnic has two weeks' supply of heating oil left, and although it still has enough materials and equipment to last this term, there will not be enough in January unless it can order them before Christmas.

The rescue plan constructed by other metropolitan counties to save the city council from running out of money (known as the Stonefrost plan) after the Greater London Council's principal officer Mr Maurice Stonefrost looked unlikely to succeed this week, after other councils failed to offer as much financial support as Liverpool needs.

The polytechnic's senior management team also issued a statement defending Mr McKenzie and its own work in the past 18 months. "The senior management team has introduced new financial allocation procedures, new academic review mechanisms, and begun the implementation of

the Inner London Education Authority that Mr McKenzie be allowed to leave the polytechnic early to take up his new post as head of the London Institute, the consortium of art and trade colleges being formed on January 1 1986.

A motion strongly criticizing Mr McKenzie's decision to leave and the management of the polytechnic has been put to three of the six branches of the National Association of Teachers in Further and Higher Education in the polytechnic. Two branches passed it, the other, art and design, rejected it.

This week the fine art staff of the polytechnic issued a statement defending Mr McKenzie, accused in the motion of adopting a one-man management style.

It says that in two years the rector had established clear management structures and educational priorities in the institution, defending courses, jobs and the polytechnic's work in the community.

The polytechnic's senior management team also issued a statement defending Mr McKenzie and its own work in the past 18 months. "The senior management team has introduced new financial allocation procedures, new academic review mechanisms, and begun the implementation of

a new faculty and departmental structure to strengthen links and build a strong corporate identity," the statement from 12 managers says.

"The senior management team remains confident that the standard of academic work and development undertaken in the polytechnic continues at a very high level."

Mr Dave Robertson, chairman of the Natfhe co-ordinating committee in the polytechnic, said the union's intention was to make constructive proposals for the institution, not to attack an individual. "Natfhe would not wish to diminish what has been done. We wish to deal with what needs to be done, and we are confident that the staff understand the issues and will support us."

Natfhe has asked those polytechnic branches which have not yet considered the critical motion not to put it to the vote. Mr Frank Griffiths, Natfhe education secretary, said that attention should not be deflected from the problems of the city council on to the polytechnic.

"The problems the polytechnic faces are not of its own making," he said. "It is part of a crisis of local authority funding over which nobody in the poly has any degree of control or influence greater than any individual."



Trapped in a low pay ghetto

Morale among clerical and related staff in universities has never been lower and many good and loyal staff are now leaving the system as the only way out of a low pay zone. After three meetings in January, April and June where university employers went through the ritual of offering a straight 4 per cent with no service conditions' improvements, no restructuring and no hope of a decent career structure, the only real negotiations took place in October and ended with an unacceptable offer.

Those working in areas of high unemployment know that they have nowhere else to go and are trapped in a low pay ghetto in their local university with the consequent effect on morale and efficiency. With little prospect of promotion in universities and 25 per cent of clerical and related staff stuck at the top of their pay scales with no increments to look forward to members of the National and Local Government Officers' Association are beginning to wonder if universities have any regard for their skills at all.

Ten months after the claim was submitted an offer was made of a £4.50-a-week increase on the bottom grade rising to an £8-a-week increase on the top grade, a sort of staged flat rate in reverse. The unions had argued for a flat-rate pay increase of £14 a week and improvements to career structure and conditions of service. The employers' offer has been rejected because clerical and related staff simply cannot afford to subsidize universities any more at the expense of their living standards and career prospects.

The vice chancellors have acknowledged in a letter to Sir Keith Joseph that they understand the "sense of grievance" of non-teaching staff, "particularly as, year after year, they have seen the Government conceding higher settlements than the universities have been able to afford for directly matching groups".

This sympathy did not translate itself into a decent offer and the traditionally non-militant support staff now feel betrayed and abandoned. University employers now accept officially that clerical and related staff have fallen 5 per cent behind the Civil Service, 11 per cent behind the health service and 14 per cent behind local government. What is ironic is that some universities pay local government rates to their clerical and related staff, making a nonsense of national pay bargaining.

The employers' argument about ability to pay might have more weight if there was a feeling that everyone was in the same boat and should be treated the same. Unfortunately, this does not happen in universities. The 4 per cent interim award which was imposed on academic and academic-related staff pending their final settlement - more than £500 per person on average - would be worth 12 per cent to clerical staff and would be gladly picked up as a final settlement.

Natfhe and the National Union of Public Employees have just commissioned a research survey into low pay in universities and the results will be available next year. It should bring home the fact that take home pay levels "enjoyed" by clerical staff are between £340 and £460 per month. The benign neglect of university management must end and a concerted effort made to end the scandal of low pay in universities.

Ri'a Donaghy

The author is chair of the Natfhe Universities Clerical and Related Committee

OVERSEAS NEWS

from David Dickson

PARIS

French plan for science and technology without tears

The French government is increasing its efforts to boost what it calls *la culture scientifique et technique* - roughly translated as scientific and technological literacy - by making this one of its top priorities in its three-year plan for research including the period 1986-87.

The French minister for research and technology, M. Hubert Curien, outlined to the council of ministers last month details of a stimulation programme which he is putting into effect jointly with the ministry of national education and the ministry of culture.

Chief responsibility for administering this programme will lie with a new department of information, communication and scientific and technological literacy which has been created within the ministry of research. This department will take over and expand on the work previously carried out by the interministerial mission for

scientific and technical information (MIDIST), which was one of the major innovations introduced by the socialist government when it came to power in 1981 as part of a general effort to boost support for and interest in French science.

During the past four years, various activities have been carried out by MIDIST and the other ministries towards this goal. These include increasing the amount of time spent on scientific and technical subjects in the school curriculum and making a major effort to disseminate information about the research carried out in government laboratories.

A massive capital investment has

been made in the construction of a new museum devoted to science, technology and industry at La Villette, to the north-east of Paris, and the amount of money devoted by the ministry of culture to science-related activities has increased ten-fold over the past three years.

According to M. Curien, the new programme being launched jointly by the three ministries will focus on four priorities:

- Providing funds from central government for developing and strengthening France's system of regional centres for scientific and technological culture, with the support of local authorities;

- Encouraging greater efforts by private companies to disseminate information, both internally and externally, about their scientific and technological activities;
- Supporting the creation of new techniques for disseminating information about science, for example through a multi-media "new encyclopaedia", modelled loosely on the famous work of Denis Diderot and already involving more than 200 French and foreign scientists, which is to commence publication next year;
- Increasing the number of activities directed specifically towards young people, such as "twinning" schools with individual government laboratories.

ies, and introducing two-week study courses for schoolchildren at the new science museum at La Villette.

As part of its efforts to meet this last objective, the ministry of research and technology last month organised a trip around France by 336 secondary schoolchildren, divided into 12 groups, to visit a wide range of public and private research institutions.

Carried out under the title of "Passport for Research", the purpose of this highly publicized exercise, according to M. Curien, was "to permit our young people to become familiar with the work of our laboratories, and to become more aware of the realities of French science".

M. Curien also told the council of ministers that he intends substantially to increase the efforts of the French government to increase its international collaboration in efforts to develop a greater public understanding of science, particularly with other European countries.

UN economics college casts its net

by Donald Fields

HELSINKI

Within months of its inauguration, the World Institute for Development Economics Research (WIDER), Helsinki-based arm of the UN university, is drawing a star-studded list of economists to its meetings despite being removed from the academic mainstream. Hopes are high that the intellectual stimuli this provides will help in clustering distinguished researchers around the institute, first described in *The Times* in June.

This was the view of the institute's director, Dr Lal Jayawardena, speaking in the wake of a meeting on international economic issues at which visiting experts represented a veritable galaxy.

So far only two of WIDER's staff of 14 are designated "senior fellows". But once the reputation spreads, a snowballing of researchers eager to work in prestigious company, even for three-month summer periods, is expected.

The level at which Dr Jayawardena is aiming is extremely high. "They are well-established people with a substantial record in their own right," he says. "World Bank, who want to take a temporary break. It is not easy to get them to disengage themselves and you have to look two years ahead, but the word that we are exciting is spreading."

For example, WIDER has secured the services of Professor Amartya Sen, fellow of All Souls, Oxford, as a research adviser. He will work on

hunger and poverty, which combines with money, finance and trade and development and technological transformation as the three fields in the institute's purview.

Papers are being prepared prior to publications and research meetings next summer and autumn, including a conference on debt, stabilization and development in memory of the esteemed Professor Carlos Diaz-Alejandro of Columbia University. The economists joining WIDER with their views vary from unsavoury monetarists to neo-Keynesians. Among ground being covered is governance of the international economy and a re-ordering of the Bretton Woods system - a Jayawardena hobby horse - and a debate on whether to reinstate.



Dr Lal Jayawardena

Two Irelands to co-operate - but how?

from John Walshe

DUBLIN

Politicians, academics and college administrators from both sides of the Irish border met in Dublin last week to discuss co-operation in higher education.

The occasion was a conference called to discuss a report on the complementarity and co-operation between the two systems. It was prepared by Professor Gareth Williams of the University of London Institute of Education for the Northern Ireland Economic Council and the Dublin-based National Economic and Social Council.

All participants professed themselves to be in favour of co-operation but many took issue with aspects of the report.

Their reservations drew the very comment from Professor Justin Keating, chairman of the Irish National Council for Educational Awards who said: "When people from the north and south meet with basic goodwill there often seems to be a difficulty for every solution." He himself saw a difficulty in the report namely that it had not dealt enough with the non-academic sector of higher education.

Security at the conference venue - the magnificent restored 300-year-old Royal Hospital - was very tight. This was mainly because of the visit by Mr Nicholas Scott, parliamentary under secretary for Northern Ireland. His visit coincided with the meetings that day in London between Irish and British ministers on the final stages of the Anglo-Irish discussions on Northern Ireland.

Mr Scott said that it would be very simple to argue that space capacity in northern colleges could be employed to absorb overflow from the south. Unfortunately this would be misleading.

Higher education institutions in Northern Ireland were, almost without exception, overcrowded at present and the reduction in the number of 18-year-olds projected by the mid 1990s would do no more than allow accommodation standards to return to reasonable levels.

"This is not to say that students from the south and elsewhere will not be welcome in our institutions - quite the contrary. But I do wish to underline that the scale of the so called space capacity likely to be available in the north on present evidence, will be distinctly limited and, as Professor Williams points out, will be numbered in hundreds rather than thousands," said Mr Scott.

The Irish education minister Ms Gemma Hussey welcomed the report but declined to comment on any of its recommendations: neither the minister was able to remain for the afternoon session.

Dr Sean McDonagh, head of the Dundalk Regional Technical College said the report had not tackled the question of provision for the Newry-Dundalk area. "From my office window I can see Northern Ireland, yet there is not one single student from Northern Ireland in my college."

OVERSEAS NEWS

First 'private chair' provokes alarm

from Geoff Maslen

MELBOURNE

The University of Melbourne is going ahead with a controversial plan to appoint Australia's first "privatized professor". Despite strong opposition within the University Council, the university has decided to accept an offer by an American-owned company to finance a chair in taxation law - with the company's nominee as the professor.

It will be the first time in Australia that a university has agreed to set up a chair and allow the endowing outside body to dictate who will occupy the position. The decision has created alarm in some university circles, especially among academics concerned by recent moves to increasingly "privatize" higher education through proposals to reintroduce tuition fees and make institutions more reliant on private sponsorship.

Mr Bernard Marks, a reader in law at the University of Adelaide and an expert on tax issues, is to be appointed the CCH Research Professor of Taxation Law. He will take up the new post in January.

CCH Australia Ltd, a wholly-owned subsidiary of Commerce Clearing House Inc, of America, the world's largest publishing house of law texts.

CCH Australia has offered to cover the salary and incidental costs, including retirement benefits, of a research chair in taxation law for as long as Mr Marks holds the position. The open-ended endowment could amount to more than A\$1 million, given that Mr Marks is in his early forties and could work for another 20 years.

The CCH proposal came before the university council last month and was strongly backed by Melbourne's vice-chancellor, Professor David Caro and the university's academic board.

Professor Caro intimated to council that other business firms might also be willing to set up their own chairs at the university under similar arrangements.

But the proposed scheme was extremely questioned by a number of council members at the October meeting and the vice-chancellor was asked to put the recommendation before a full meeting of the Faculty of Economics and Commerce.

At this month's council meeting, Professor Caro informed members

that the economics and commerce faculty had voted in favour of the idea provided "council was satisfied not only that the candidate is of an academic standing suitable for a chair in the university but also that he is of sufficient standing that, had funds for the chair been untied, it still would have been prepared to offer him the position by invitation without the normal procedures or advertisement and open competition".

After lengthy and heated debate, a motion to approve the setting up of the chair was passed. Professor Caro defended the decision after the meeting. CCH's generosity would allow Melbourne to appoint "an outstanding person who otherwise would not have been available", he said. In the agreement between the two parties, the company had agreed that it would accord Marks the same freedom to pursue independent research and to grant him the same teaching rights in connection with his employment as that accorded to other professors.

Outside the university, however, the proposal has also come under attack. The National Federation of Australian University Staff Associations described the scheme as "tossing aside 100 years of academic tradition at Melbourne".

The general secretary of the federation, Mr Les Wallis, said the idea was quite out of keeping with traditional university values and beliefs and was directly contrary to appointments by merit. "If big business can buy a chair and nominate the occupant, perhaps the university would also allow the government, the church or even the league of rights to fund a chair", Mr Wallis said.

Alleging that there were national and even international repercussions that could flow from acceptance of the scheme, Mr Wallis added: "Given the contempt in which institutions which sell 'degrees' are held, how will Melbourne University be regarded if it begins to sell professorships?"

He predicted that there would shortly be a long queue of people lining up at Melbourne University for one of the institution's prestigious chairs.

Although most Australian universities have a number of professorial chairs paid for out of private endowments, none specify that a particular individual should be the occupant.

Science gains as French try to satisfy employers

The number of professionally-oriented degree programmes offered at French universities has risen markedly this autumn at all levels, while academically-oriented programmes have been pruned back.

These changes represent the latest in a series of shifts in higher education policy over the past few years aimed at satisfying manpower needs of French employers and reducing graduate unemployment.

The largest single initiative this year has been the creation of 147 new *maîtrise* programmes in science and technology. Running for four years after the baccalauréat (the French equivalent of A levels), the new programme will specialize in disciplines in heavy demand, particularly those required in the growing service sector of the economy.

An entirely new practically-oriented degree, the *magistère*, is to be created, based upon a combination of three years work in classrooms, companies, and laboratories. Some 18 degrees have been set up in universities around the country, each taking in 40 students after the two year "first cycle" of university education.

In addition, some 19 new first cycle Diplomas for Scientific and Technical Studies (DEUST) are to be offered this year, providing two years of technical training in job-related fields such as audiovisual communication and computer ecology.

Even in faculties of arts and social sciences, efforts are under way to tie

courses more closely to work possibilities. New offerings have been set up in fields such as applied languages for foreign trade, land use planning, and tourism development.

At postgraduate level, 436 one-year Diplomas in Specialized Studies (DESS) have been authorized by Universities Minister M. Roger-Gervard Schwartzberg this year. This represents an increase of 15 per cent on the number of such programmes offered last year, with the largest growth in electronics and computer courses.

In DESS programmes, the relevant profession must be involved in planning and teaching the course. The ministry also requires proof that jobs will be available for graduates before an authorization will be issued for such a degree.

On the other hand, there has been a sharp drop in the number of predoctoral Diplomas of Advanced Studies (DEA) programmes receiving ministerial approval, down to 994 this year from 1,221 last year. The government intends to phase out the closure or merging of many programmes, particularly in the small universities of western France and in the life sciences.

Recently published research showed that new pre-professional diplomas are proving effective launching pads for well paid careers. Most of the graduates who received a *maîtrise* in applied sciences (electronics, mechanics, etc) and one year of further training received jobs comparable to those won by graduates of elite engineering schools.

from Barbara von Ow

MUNICH

The West German government will provide financial support for the new European technology cooperation project Eureka, West German chancellor Helmut Kohl pledged at a recent conference on the French-proposed programme in Hanover earlier this month.

Opening the conference, at which foreign and technology ministers from 18 West European countries outlined the goals of the Eureka scheme, Kohl said the projects should be mainly financed by private industry.

However, this would not be enough and the Bonn government was willing to make financial contributions for "selected and interesting" projects, he added. He gave no other details.

The chancellor said national efforts would not be enough in the area of future technology. Only consistent and purposeful cooperation could enable Europe to keep pace with the United States and Japan.



Chancellor Kohl... 'cooperation'

A European research network providing information links between European universities and research centres was one of three projects that Bonn thought could be exemplary for the Eureka scheme, the chancellor said. Other possible projects could

involve the development of high-performance laser systems for material processing and production techniques as well as the study of the spread of air pollution in Europe.

The Hanover meeting, where over 300 technological programmes were discussed, was the second after France launched a Eureka conference in Paris last April. A third conference will be held in London next May.

The representatives approved a declaration of basic principles for the Eureka programme. After initial disagreement on the form of a joint secretariat, the conference agreed to work out a concrete proposal for a small secretariat by the end of next January.

West German research minister Heinz Riesenhuber, who headed the German delegation, said the concern of smaller countries that Eureka would only involve larger companies and states was unfounded. Eureka should be a symbol of a European technological cooperation, "a kind of open stock exchange", the minister said.

Signals of great leap forward in space

With the first largely West German controlled space mission successfully completed, the Bonn government has signalled a claim to the European leadership in the growing commercial use of space technology.

Research minister Heinz Riesenhuber said the recent space mission D1 - which involved a European built space laboratory on the US space shuttle Challenger - was only the first step of a gigantic national effort aimed at securing West Germany the top position in the peaceful use of space technology.

"We almost missed the revolution in the information technology," the minister said, "in space we want to be first from the beginning."

The seven-day D1 mission was the first in which a European country was given virtually full control of all

scientific work. While the control of the Challenger rested with NASA the programme of experiments was directed from mission control in the Bavarian village of Oberpfaffenhofen.

The D1 mission with its 76 experiments cost Bonn some DM400 million, most of which was paid by the German air and space research institute DFVLR, the German equivalent of NASA. The rest of the money came from the European Space Agency (ESA).

Riesenhuber announced that he would submit a "space programme 2000" to parliament in the second half of 1986 which would detail West Germany's planned effort in space until the turn of the century. The ministry's space funds would rise from DM800 million presently to

DM1.5 billion by 1991, he added, mainly because investments in atomic energy programmes were being greatly reduced.

The minister called on German industry to use the research potential of the second German controlled mission which is planned for 1988. Only three of the D1 experiments had been financed by industry, he complained. For the D2 mission at least 30 per cent had to come from private means.

Meanwhile the chairman of the DFVLR, Jürgen Beck, urged that at least one more similar research mission in the 1990s was necessary for the federal republic to lead the development of the planned European space station Columbus which is due to become operational before the turn of the century.

US Secretary acts to halt accusations of hostility

United States Education Secretary William Bennett, whose relations with the higher education community have been less than cordial since he came to office, has been doing his best to mend fences. At the annual meeting of the American Council on Education (ACE) in Miami Beach, Dr Bennett made a conciliatory speech which raised hardly a hackle.

This was something of a record for the Secretary's public performance. Unfortunately, however, the public mask concealed a bitter private war. Behind the scenes, fences were tumbling and hackles were high on both sides as Dr Bennett attacked ACE officials for failing to invite any elected Republicans to speak at the meeting. He was told that Democrats cared more about education, which did nothing to improve his temper. Nor did he care for the response of an ACE official that "it's our party".

At a private meeting, ACE's president Robert Atwell, and board chairman Ronald Rosen, were accused of "parisian singlemindedness" and an "extremely hostile attitude". Dr Bennett also reacted angrily to the ACE response to his recent replacement of Sven Greenings as director of the Fund for the Improvement of Postsecondary Education (FIPSE). A spokesman had described the replacement as "a palace coup", adding: "They are making FIPSE into Bennett's sandbox, and he will only let his people play in it. It probably means the death of FIPSE as a useful agency."

Robert Atwell said later that a truce had been declared. He had got together with Dr Bennett's staff and agreed to lower the rhetoric. "We've got our guns slithered now. It's blown over," he said, adding that he and the secretary would try to communicate more directly in future.

Fund finds cash for Zulu exile

Success has come the hard way for Phumzile Noshile Zulu, a master degree student in special education at New York University. At the age of 33, Ms Zulu has just become the first recipient of an award under the newly created million dollar South African refugee scholarship fund, after an educational career studded with imprisonment, expulsion, escape and exile.

Her troubles began in 1976. She had graduated in librarianship at the University of Zululand, and was studying for a second degree in psychology when the Soweto riots broke out. Ms Zulu was promptly detained under the Terrorism Act and kept in solitary confinement for more than a year.

After her release she returned to university, only to be expelled six months later. The school was closed by the South African authorities. Then she was granted a scholarship by the South African Council of Churches to study in Lesotho, but the government

cancelled her travel documents and she was detained once more.

Ms Zulu was not about to give up. She walked, illegally, across the border into Swaziland. But even there, there was harassment from the South African police so she walked on, travelling by night, into Mozambique. From there she went to Tanzania, where she found a teaching job, before coming to the United States in 1980 and finally completing her psychology studies. She graduated *magna cum laude* from Lincoln University in Pennsylvania.

Announcing the award to Ms Zulu in New York last week, Bishop Desmond Tutu, 1984 winner of the Nobel Peace Prize, said he hoped the scholarship winners would return to South Africa to educate others. Ms Zulu said she intended to do just that.

The scholarship programme, financed by the Phelps-Stokes Fund, is intended to sponsor 100 South African refugee students in the next two years.



Party leader Ramiz Alia

Albanians lay stress on militancy

Young Albanian writers and artists must exhibit an "ever-greater militancy" in their work, according to the new party leader, Ramiz Alia. His instructions were relayed to a "national conference of young talents" by the secretary of the Albanian Union of Writers and Artists, Ljashër Siliqi.

Speaking of the "vigorous development" of working and academic young people, Siliqi commended the "young talents" for their growing contribution to the literature and arts of "socialist realism" - a style of work once endemic throughout the socialist bloc, but which, outside Albania, fell out of favour with the end of Stalinism.

The stress on socialist realism, clearly indicated that under Alia's rule, young Albanian artists will have to toe the same narrow line as under his predecessor, Enver Hoxha - a phenomenon documented in Albanian newspaper by the chairman of the Union of Writers and Artists, Dritero Agolli, as the "vivid and fresh thought of youth".

Since Hoxha's death in April of this year, Alia has been active in establishing a posthumous cult of the late leader. But already Alia is well on the way to enjoying a personality cult of his own.

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TLS

The Times Literary Supplement

Try and domesticate science and it may just lay down and die. Researchers who can't follow their ideas wherever they lead won't produce new insights essential for the growth of their discipline, so the argument goes.

Yet in practice governments must try and steer some research toward specified ends. If science is born free it is every where in harness. But after 50 years of debate about freedom and planning in research, attempts to assess attempts to direct science still have little more to go on than rhetoric, metaphor and anecdote.

A group of researchers at the University of Amsterdam is trying to do better. The department of science dynamics (Wetenschapsdynamica), led by an Englishman, Professor Stuart Blume, was set up at the end of 1982 as a result of a Dutch government initiative to try and get the country's academics to make some contribution to science policy.

The Dutch administration turned to academics of "science studies" for ideas on managing research earlier than their British counterparts - who have only recently begun looking at the work of sociologists of science and university policy analysts.

Ironically, this, as Stuart Blume, whose career has taken in the Cabinet Office and the Department of Health, once worked for the old British Council for Scientific Policy on an embryonic programme of science policy studies run from the Department of Education and Science. These were forgotten when the CSP's successor, the Advisory Board for the Research Councils, took over in the early 1970s.

While the pioneering British efforts to put science policy on a sounder theoretical footing were gathering dust in London, the Dutch were

Science dynamics go Dutch

seeking new ways to get to grips with their own science policy problems. As long ago as 1978, the Dutch Advisory Council on Science Policy (the RAWI from the Dutch) asked the government to put more cash into science studies.

The idea was approved and the Dutch tried to overcome the fragmentation of such work in Netherlands universities by holding a competition for a single academic centre, backed with special RAWI funding. Amsterdam was the eventual winner, with a research prospectus strongly influenced by a visiting German scholar, Professor Wolfgang van den Daele. The result was a compact unit recently recommended as a model for a science policy centre in a report on the prospects for the field by Professor John Ziman of Imperial College.

Science dynamics, according to the Dutch, is the study of the development and "steerability" of science. John Ziman's paper for the ESRC quotes Blume's own formulation of ten years ago: "Under what conditions are the developmental needs of science compatible with the external direction of science?" This is the central question guiding the work of the 20 or so people in science dynamics in Amsterdam, and they are committed to proving it is a researchable problem.

The original programme of the newly constituted department was strongly conditioned by work already begun at Amsterdam in chemistry and biology departments. This led to two strands being developed as case studies, one on the links between university research, technol-

ogy and industrial demands in chemistry and one on applied ecology.

A group led by Loet Leydesdorff is trying to explore how the technological possibilities society eventually sees are selected from the wider range of options which might be imagined by someone with a knowledge of chemistry. Leydesdorff's interest is in thinking how social priorities, like environmental protection or safety, can be woven into the research agenda of a well-established discipline with strong ties to a major industry.

The direction of chemistry research is not in question - the issue is how to move it in new directions, and in particular how to ensure closer ties between university researchers and industry don't restrict the range of technological development. Leydesdorff's group is also interested in whether the strategic research planning which is well established in the industry can be adapted where goals are fuzzier than those of maximizing business advantage.

As this suggests, the work at Amsterdam inverts the common query about "the impact of science on society" and looks instead at the impact of society on science. The same is true of the second founding project in the department on the development of applied ecology.

The group, led by Jacqueline Cramer and Rob Hagendijk, is interested in the influence of the rise of environmentalism on the work of ecological researchers. The growth of environmental concern in the 1960s and 1970s offered opportunities for ecologists to command new

funds, but also raised expectations the discipline wasn't ready to meet.

The questions this raises for science dynamics include the effect of attempts to tackle environmental questions on the structure of ecological research - and that covers the intellectual structure of ecology as well as the organization of inquiry. How do the complex influences mobilized by the political and social salience of ecological problems shape the way researchers see their role and the work they do?

Both these projects and a third, medical, strand deriving from Professor Blume's own interests, will involve long-term work by groups of researchers. But Stuart Blume feels the department can already claim to be moving toward a shared theoretical position that "there are innate differences between the sciences, so that the same policy measures don't necessarily have the same effect."

Of course, policy-makers in the Netherlands - and Britain - want to know what those differences are, but putting detail on the general position is still some way off. Are particular kinds of scientific communities, types of theories, or experimental approaches better suited to direction than others? Do the rest just have to be left alone or can they be encouraged to develop in ways which make them more "steerable"?

The next few years will tell if these sorts of questions will find answers which have direct relevance to decision-making by managers of research budgets, who are of course trying to steer science studies itself to promote such results.

Jon Turney

I spy a comedy of errors



by Peter Aspden

Threats to national security, successive governments never tire of exhorting, are everywhere. Under the head, round the back and facing us head on, over more threateningly, across central Europe. The need to counter subversion has rarely been more strongly and frequently hammered home; yet somehow, the bizarre exploits of the world's espionage communities, from the Cheka to Cheltenham, have a depressingly constant tendency to descend to the levels of farce and fiasco.

The biggest problem, of course, is publicity. Intelligence chiefs inevitably become disabused and frustrated when every front page spy scandal can dent the image of organisations which put in hours of painstaking research collecting vital - and largely correct - information.

But that, stresses Dr Christopher Andrew, is the name of the game. One of the consistent themes of *Secret Service*, his book on the making of the British intelligence community, is that successes must remain secret, while failures hit the newspapers with resounding and spectacular results. The whole world, it seems, loves a spy story.

"I'm not sure I have any special answer as to why that is," he says, "although I think secrecy always seems to have a fundamental appeal for the media." Not to mention academics: "I first became interested because it was first fun, and I was curious, in addition to which there was a massive gap in most 20th-century political history, which left out the role of the intelligence communities altogether." It is, he says, the "missing dimension" which needs to be understood to make any sense of this century's turbulent happenings.

Dr Andrew reflects on the "superb irony" of his early academic career in the mid-1960s, when he was first attracted by the secret world of intelligence, and was supervised by none other than Professor Harry Hinsley, who had been heavily involved with the success of Ultra, the British code-breaking operation during the Second World War. Their discussions must have been fascinating studies in nuance and bluff, as nothing was known about Ultra and little was given away.

The more scraps of information he found to keep him going, the deeper his interest. "People tend to forget that lots of papers and documents actually have a rather denuding effect on historians, and the fact that there was so little to work on was quite appealing. People tend to pay too much attention to things that are there, and not enough to what is missing." His biggest obstacle throughout, however, was the intangible but unmistakably

British attitude to official secrecy.

"Governments have overdone it to such a counter-productive extent that the KGB could not have done a better job. Of course, there is a need for some secrecy, but it is the received wisdom that some MIS and GCHQ documents are so secret that it may never be possible to release them, no matter how old they are." It was not an attitude he found easy to accept.

Looking at individual episodes of British political history, such as the Zinoviev letter and the "red scare", fuelled his curiosity. "While it has always been assumed that these were exceptional occurrences, I started from the opposite premise, that things like that were going on all the time."

Dr Andrew's historical outline of British intelligence starts with the immensely entertaining episodes of the last century, when the astonishing degree of amateurishness and naivety of politicians provided a wealth of anecdotes.

The beginning of the Crimean war, for example, was marked by the British commander-in-chief, Field Marshal Lord Raglan, complaining on his departure for Sebastopol that he had as much basic information on the enemy as Jason and the Argonauts. After an attack at Balaklava, Lord Lucan, commander of the Light Brigade, was urged to "attack and prevent the enemy carrying away the guns". Back came the bewildered reply: "Attack, sir? Attack what? What guns, sir?"

But the essential silliness of the stories, perhaps surprisingly, carry on until well into this century. In the early days of the First World War, when spy mania had gripped the country, it became positively dangerous to be seen in the vicinity of a "suspicious" pigeon. One foreigner was sentenced to imprisonment after a pigeon was seen to fly from the place where he was standing. He had, it was assumed, liberated it.

Later still, Dr Andrew tells of the recruitment of W. Somerset



Author Christopher Andrew



Right, Vitaly Yurchenko, the KGB man who last week returned to Moscow. Above, GCHQ

Maugham, one of the most celebrated and least effective spies in history. Armed with a generous expense account, he was sent to Russia in 1917 to keep the Russians in the war. After shuffling a couple of messages between Kerensky and Lloyd George, his fumbling efforts were violently overtaken by the Bolshevik revolution.

Maugham, Dr Andrew observes dryly, will be remembered more for his role in the development of the spy novel. The further one rummages through the book, it becomes increasingly clear that comedy has always remained inextricably linked with espionage; a world in which missions are led by characters such as Admiral Sir Reginald Aylmer Rantuly Plunkett-Erle-Drax, who managed to travel to Moscow in 1939 without any official credentials and declared himself non-plussed when asked to present them.

"The only thing to do was to wire home," he remarked. But the whole world of intelligence remains, or at least pretends to, a serious business, and Dr Andrew has constantly come up against the obstinacy of the official censor's office, which he claims has "outrageously laundered" the past. Quite apart from the 30-year-rule which applies to normal Government documents, "sensitive" material is removed from the records as a further precaution.

"At first, there was no acknowledgement that anything had been removed, although it was simple to find out if there was a gap in the records. At least now they put in a little slip to tell you something has gone. But even then, what you leave behind is a completely

distorted view of the Government policy of the time. As a historian, you cannot interpret the nine-tenths of what is available by having no knowledge of the one-tenth which is missing."

In the course of his researches, Dr Andrew developed a respectful, and even sympathetic, view of the intelligence community. "It has grown in a professional and highly sophisticated way, and its greatest successes, such as in the Second World War, remain undiscovered for a long time. There is always a lag between the disasters and triumphs." The consistent note of humour running through its history, he says is amply provided by the politicians controlling the scene.

The more sophisticated the techniques of spying, it seems, the wilder the paranoia. As recently as 1964, the Lord Chancellor, Lord Gardiner, strongly suspected that MIS was bugging the telephones in his office, so he discussed confidential matters with his attorney general in the back of his car, while his chauffeur drove aimlessly around London. Even Harold Wilson, the book confirms, voiced suspicions that MIS, possibly assisted by the CIA, was plotting against him during his final term.

"Virtually everything depends on how the politicians regard the intelligence services which are supposedly at their disposal," says Dr Andrew. "You can be like Henderson - a teetotaler - who regarded intelligence like hard liquor, and shouldn't be touched with a barge pole. Or you can take the other extreme, like Curzon, and become obsessed. He became so upset by references to him in secret French

communications that it actually shortened his life. It all depends on attitude."

The present Government's reaction to GCHQ, he ventures, is a prime example of muddled thinking. "The Government decides in 1981 that it needs to ban unions at GCHQ for reasons of national security. So it waits until 1984 to actually carry that out. Why has it taken so long? Because it has been defending the status quo, hasn't actually admitted GCHQ exists, even though everyone knows. Crazy."

Unfortunately, for the self-appointed guardians of national security, but to the delight of the popular press, there is no sign that the leaks will be plugged, and the moles will stay underground. Government policy towards the intelligence community, Dr Andrew observes, remains riddled with contradictions, while the recent cases of Prime, Botany and the Cyprus seven illustrate the inherent weakness of any system which relies on absolute secrecy.

And then, of course, there are the accidents. One of Dr Andrew's favourite stories, which came from an "impeccable" source, tells of a secret Cabinet discussion being picked up over the radio by a taxi-driver, who duly wandered into a local police station to report it. What he heard has not been reported - yet.

Secret Service by Christopher Andrew, published by Heinemann, £12.95.

BOOK REVIEW PAGE 21

John O'Leary on the crisis in British architecture

Fifty the poor architects. Battered by Prince Charles and bruised by the recession, they now face fresh turmoil over their education system. The profession is currently engaged in something approaching civil war over proposals to reshape the network of schools of architecture, while in the wings lurks a greater threat to the very existence of their five-year courses.

The writing has been on the wall, as far as the size of the system is concerned, for at least two years. Sir David Hancock, permanent secretary at the Department of Education and Science, warned then that the number of students of architecture was out of balance with foreseeable job prospects. Their training was too expensive to be allowed to run out of control, and resources should be put into engineering instead.

A transitory working group - one of the first joint ventures between the National Advisory Body and the University Grants Committee - had been established already under the chairmanship of Lord Esher. The clear intention was to produce some degree of rationalization.

Two years and two working groups later, there is no longer any realistic doubt that cuts are on the way, but the battle rages on over where they should fall and how great they should be. Some of the schools, the lecturers' unions and the architects' registration body are all fighting a rearguard action against closures and mergers, but the real argument is about the scale of the coming rationalization and the future of the two-part degree system.

Within the next month, three crucial debates take place which should settle at least the immediate future of the 34 schools of architecture. The first - and potentially the most explosive - was held on Wednesday, when the council of the Royal Institute of British Architects received a proposal from its education and professional development committee which might place up to half those schools in jeopardy.

The report, entitled *Looking to the future*, is innocuous enough in the language format which will be put before the RIBA council. But behind it lies a detailed scheme which has aimed the schools of architecture to a point where an emergency general meeting of the association is being threatened, to censure the committee and commit the RIBA to a policy of opposition to the cuts.

The council will also debate its detailed response to the report of the successor to Lord Esher's group, which has recommended the closure of four schools and the possible merger of four more. The education committee has put forward a policy of opposition to the closure of the school at Queen's University, Belfast, while accepting the three polytechnic closures advocated by the NAB/UGC group. Huddersfield and North East London polytechnics would lose their schools, while the Inner London Education Authority would select a fourth victim from Thames, South Bank, North and Central London polytechnics.

The absence of support for the polytechnics has caused trouble enough for the committee, but its own task of defending the status quo, far from creating an elite group of perhaps 17 existing schools, plus four

Writing on wall for the pillars of wisdom

BRIEFING BRIEFING BRIEFING

or five merged regional centres, which would be offered a "protective shield" by the RIBA. The consequences for the rest are not hard to imagine, especially if the association were to carry the policy through to its logical conclusion and withdraw recognition. That is not proposed at present, but is a real fear in the schools.

Wednesday's meeting did not receive details of the plan, but earlier drafts of the committee's report spell out which institutions would be favoured. In its original form, not only would the North East London and Huddersfield polytechnic schools close, but four others would be omitted from the two categories of protected or merged schools. They were at Nottingham University, Brighton and Leeds polytechnics, and Robert Gordon's Institute of Technology, Aberdeen. Mergers would create regional centres in Manchester, Edinburgh and London - one north and one south of the Thames.

A later version included the four institutions originally left out in the cold and reopened the possibility of a merger in Glasgow, but underlined the two-tier nature of the proposed new system. Mr Peter Melvin, chairman of the committee which devised the plan, told the *Architects' Journal*: "Many heads of schools have said that they fear their departments will go to the wall if they are not made bigger. Our aim is to create a RIBA shield around a number of carefully chosen schools so they are not left with a hopelessly low intake, at the mercy of government or their own institutions when the next round of cuts comes along."

Even if the rationalization proposed proves too radical - and too late in the context of the UGC/NAB exercise - a review of the overall shape and content of the education system is still likely to go ahead.

That will be where the second and possibly more serious threat to the status quo comes in. An oblique but menacing reference in the Green Paper on higher education, followed by a report by Her Majesty's Inspectorate, has raised serious doubts about the Government's willingness to continue supporting five-year degrees in



architecture. And an EEC directive on the mutual recognition of diplomas, including four-year courses on the Continent, has added to the pressure.

Without singling out architecture by name, the Green Paper expressed concern at "the extra costs and proportion of first degree courses outside Scotland lasting for four or five years rather than three". In some cases, it said, courses incorporated what was effectively training at the Government's expense rather than the employer's.

There came the HMI report on architecture courses in the public sector (the inspectorate having no remit in the universities). This raised doubts about a number of aspects of existing courses and called for a review of the system. "Most comparable professions have adopted a postgraduate formation linked with continuing part-time study and it is not at all clear why architecture has felt the need for such a different system."

Shorter courses were considered by both Lord Esher's group and its successor, chaired by Professor Gordon Higginson, but have always been strongly resisted by the architects themselves. The HMI report, which was prepared without reference to the RIBA or the Architects' Registration Council of the United Kingdom, has infuriated the professional bodies, but it is bound to influence both the RIBA review and the Government's final judgement on the advice it receives from the NAB and the UGC.

That advice will be formulated in separate debates on the transitory group's report, which are also likely to be tense occasions. The signs are that the UGC will want to reprove the Queen's, Belfast, school. But the NAB will insist that the total number of students recommended for each sector is maintained.

The NAB will have its own arguments to conduct without joining battle with the UGC. There is certain to be resistance to the closure of the NABP and Huddersfield schools, especially if the UGC is suspected of bulking at its one closure and the ILBA is proving similarly reluctant.

The report conceded that the learning experience for architectural students was often both enriching and enjoyable. "However, it is not always relevant to the skills required of practicing architects and the content, the balance of subjects and the mode of attendance on courses, should be the subject of a review which takes account of the needs of architecture in the real world," it adds.

It is this verdict, together with a later expression of doubt that architects need such a different system to other comparable professions, which is seen as a threat. The postgraduate diploma adds nothing unique, the report says.

In particular, the inspectors took issue with the use of the architecture degree as the sole criterion for entrance to diploma courses. "It is hard to justify the lack of a quality bar in

Looking for quality, not quantity

The present closure proposals stem directly from what was basically a manpower planning exercise by Lord Esher's group. His committee looked at the quality as well as quantity, but its basic proposition was to stabilize the size of the profession at the point it would reach when the students already on course qualified.

There was no doubt in the minds of the committee that, following the effects of the recession, the architectural profession could not support the numbers implied by continued high intakes to all the schools. The employment statistics might look good, but this was largely due to the structure of the courses, the surveys being taken when students were effectively on placement.

Even the post-diploma statistics did not tell the whole story because of the large numbers of graduates in private practice who were under-employed. The effect in financial terms was equally striking. During the 1970s the value of new commissions per head of architectural staff halved in real terms, as activity slumped in the construction industry. Starting salaries for newly qualified architects also dropped dramatically in value.

All this convinced the committee that at the very least the size of the profession had to be frozen, but the two-part character of architectural education added an extra complication.

"We do not consider that only those who want to become architects

should be admitted to a first degree in architecture," said the Esher report. "We see this as having a wider value than that of being the first stage in the preparation for a particular professional career; moreover it can be seen as one way of meeting the current need for more design orientated courses."

No precise target was set for part one courses, but a cut of some 15 per cent compared with 1983 intakes was suggested. For part two (diploma) courses, a maximum of 700 new enrolments per year was the target set - a cut of more than 300 per year. Four closures were suggested, plus mergers in London and Scotland.

However, Lord Esher did not go on to select the victims of such policy, although he did suggest a minimum size of 150 students per school. The job of translating the policy into reality was given to Professor Higginson's group, drawn from the NAB and the UGC and containing no architects.

The new group decided on quality, size, location and interrelationship with the profession as the criteria for distributing places. After wide consultations, it recommended closures at Queen's University, Belfast, Huddersfield and North East London polytechnics, together with a fourth to be determined by the Inner London Education Authority. It also called for immediate talks on the possibility of a merger in Edinburgh and a longer term study of a second merger in Glasgow.

RECOMMENDED INTAKES PUBLIC SECTOR (ENGLAND)

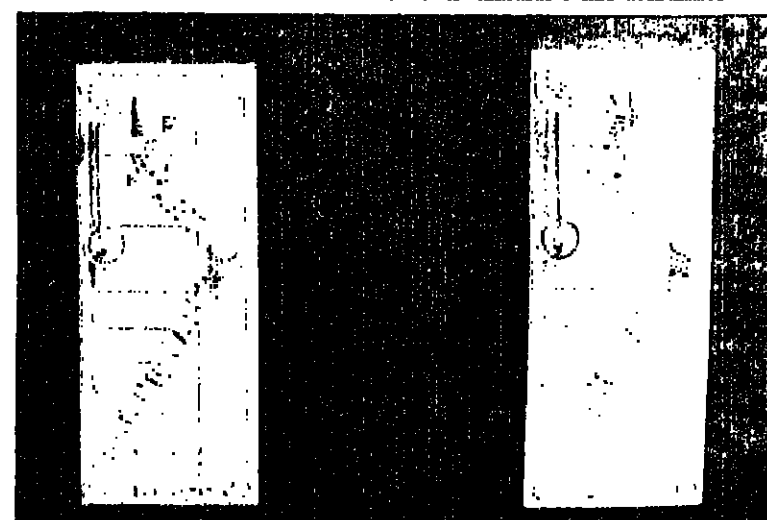
	Part 1	Part 2
Birmingham	45	20
Brighton	35	25
Canterbury	30	20
London (3 institutions)	180	100
Humbly Grove	35	20
Kingston	45	25
Leeds	40	20
Liverpool	40	20
Manchester	30	20
Nottingham	35	20
Sheffield	40	30
UWIST	50	30
TOTAL	330	200

UNIVERSITIES (EXCLUDING SCOTLAND)

	Part 1	Part 2
Bath	30	20
Cambridge	35	20
Liverpool	45	20
London	40	20
Manchester	35	20
Newcastle	30	20
Nottingham	40	30
Sheffield	40	30
UWIST	50	30
TOTAL	330	200

SCOTLAND (CENTRAL INSTITUTIONS AND UNIVERSITIES)

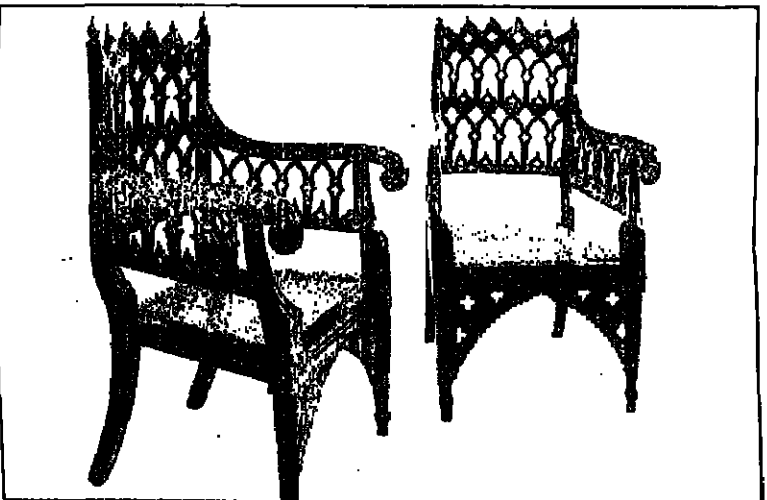
	Part 1	Part 2
Dundee (DICA)	45	20
Edinburgh (Edinburgh University and Edinburgh College of Art)	80	35
Glasgow School of Art	45	20
Aberdeen (RGIT)	40	20
Strathclyde University	40	20
TOTAL	230	115



Plastic wall-fitting water-boller: an alternative to a kettle. BA industrial design student, Central School of Art and Design.

Central School of Art and Design

Founded 1896 as central school of arts and crafts.
Five adjacent buildings including Jeanette Cochrane theatre in central London.
596 students: 498 advanced; 98 non-advanced (1983/84).
90 teaching staff (1984/85).
Four BA (Hons) degree courses: fine art; graphic design; three-dimensional design (ceramics, industrial design, jewellery, theatre design); textiles.
Foundation course: masters degree



Carved wooden chairs, London College of Furniture.

London College of Furniture

Founded 1899.
Two sites in East London.
1,147 students: 324 advanced; 823 non-advanced (1982/83).
111 teaching staff.
Diploma, City and Guilds and Youth Training Scheme courses include furniture design, production and conservation; interior design; textiles; toys and musical instrument making and maintenance.
Only a possible member of the institute. The college of furniture is also talking to City of London

Polytechnic about merger, since the poly is closer to it in the East End of London than any institute member. The college is rooted in the furniture trade and the history of East London, according to its principal Mr Peter Metcalfe, although its musical instrument department – unique in the United Kingdom – has grown in 15 years from 12 to 200 students.
It has no degree courses. Its courses are vocational, but range from the craftsman-designer end to mass manufacture and retailing training. But it is the only college among those in the institute that incorporates manufacture according to Mr Metcalfe, and fears it will lose out in a large institution in which technology appears not to have a prominent part.



Student production of Wycherley's *The Country Wife*, Central School of Speech and Drama.

Central School of Speech and Drama

Founded 1906.
Two sites in Swiss Cottage, including Embassy Theatre.
283 students: 200 advanced; 83 non-advanced (1983/84).
38 teaching staff (1984/85).
Diploma in acting; higher national diploma in stage management; advanced diplomas for teachers in speech and drama, voice studies, educational drama.
Two degree courses: BSc(Hons)

speech therapy; BEd(Hons) speech and drama.
Famous alumni: Sir Laurence Olivier, Dame Peggy Ashcroft, Vanessa Redgrave.
Only a possible member of the institute.
Central school had abortive merger talks with London University's Westfield College, has links with the polytechnics of North and Central London for its teaching and speech therapy courses respectively, but will stay single rather than be swallowed up by a large institution.
They already do one production a year with the theatre design students at Central School of Art and Design; this plus the fashion, business and management courses at the other institute colleges would be the main areas of collaboration.
The school is small, friendly; the speech therapists and trainee teachers give it a calmer mood than more frantic London drama schools.

Karen Gold takes a roll call for the new London Institute,

Designs on the future

When it opens on January 1 next year, the London Institute will at least have style. Its central offices are to be in Oxford Street, above a conference room cum gallery for showing (and selling) students' work. And the outside world will be notified of its opening by a New Year card, designed at St Martin's and produced by the London College of Printing.

But on January 2, will there be anything there but style? Seven or nine colleges, 29 sites (30 with the Oxford Street showpiece), plenty of students – more than almost every British polytechnic – a director appointed but probably not in post, and a name.

The idea of a collegiate institute to link up London's art, design and specialist colleges has been around for more than 10 years. Whenever suggestions more repugnant to the art colleges – such as putting them into the polytechnics or an out-and-out merger – have been mooted and fought off, the idea of a loose federation has come up as well.

But this time round, in the Inner London Education Authority's review of its advanced further education throughout 1984, it was clear that the art colleges would no longer be able to hang on to the status quo. London lost three of its art courses in the National Advisory Body exercise of 1984/85, and NAB plans for 1987/88 – the next major national exercise – threatens art though not design with a 20 per cent cut.

The art colleges and most of the specialist colleges are small, some with high costs per student and for teaching staff. Trends in art and

design call for ever more expensive equipment – video, computers – while Government policies press colleges and local authorities away from small units and towards rationalization.

As well as the national political agenda, there was an ILEA one: the art colleges in particular, it seemed to councillors, were paying too little attention to the authority's access and equal opportunities policies.

So the idea of a federation was revived. The definite members would be the four art colleges – Camberwell, Central, Chelsea, St Martin's – and four specialist colleges: distributive trades, fashion, furniture and printing. The London College of Furniture and Central School of Speech and Drama may come in.

Attempts by ILEA early this year to get the colleges committed and then sort out the details met with an outcry. Instead, a steering group for the institute with membership from all colleges reported in May. Some of its activities reveal the general paranoia: a special working group had to be established just to discuss the title of whoever would lead the institute: "principal" was unacceptable since there were already at least seven of them; "director" too authoritarian; "rector", "provost" and "vice chancellor" were all discussed. Mr John McKenzie, rector of Liverpool Polytechnic, was eventually appointed last week, still without a definite title.

On the other hand, the report of the steering committee hints at a slight change of mood at least among some of the colleges. Parity acquiescence in the inevitable, but also – the

report says – "greater appreciation of the prospects for collaboration and the place for mutual respect". In other words that there might be strength in numbers after all.

There are quite considerable safeguards for the colleges. Each will keep its name, and recruit its students. An early proposal for a faculty system – only one faculty of fine art, one of fashion for example – were fought off, temporarily at least.

But there will be power at the centre too. There will be one governing body, and one academic board. ILEA will fund the institute as a single institution with a block grant: a budget review will take place next year and the block grant brought in certainly within the first three years, designated a transitional stage. A review of accommodation – almost certain to cut down the 29 sites – will also take place.

Clearly, if there is some enthusiasm in the colleges for the chance of safer futures, more equipment, better research support and exciting collaboration among staff and students, there is also still considerable disquiet. The institute's collegiate members have national and in some cases international reputations in their own fields. Most of them are still heavily oversubscribed with applications. Theoretically the whole should be greater than the sum of the parts.

As John Barnicoat, principal of Chelsea put it, this might not come about: "It's protection: it means they can't exactly close us down overnight. But we could be decimated. We could keep the name, and have nothing else left."

College for the Distributive Trades

Founded 1921.

Five sites: three in the West End, two beside Smithfield meat market. 1,033 students: 333 advanced; 700 non-advanced (1983/84).

102 teaching staff (1984/85).
Diploma courses, full time and part time, including advertising, business studies, display, distribution, retailing, food technology, marketing, meat technology, media, merchandising, personnel management, public relations, travel and tourism.

Whereas other colleges in the London Institute, even if vocational, run few job-specific courses, the CDT is concerned entirely with courses for people either already in employment or with very precise job needs. Hence its preponderance of part-time students: only 15 per cent are full-time.

It has no degrees. It is a monotech, on a fairly narrow base of service industries which in some cases nevertheless – meat and tourism for example – sit oddly together.

Its governors are drawn from the relevant industries, and when they lose power to an institute governing body, the college may lose their interest as well. But it has retailing and marketing expertise to offer the artists and designers in other colleges, and hopes for design support from elsewhere for its display, fashion and textiles marketing as well.



Snooker window display by marketing students at the College for the Distributive Trades.

which will link the city's art and design colleges



Design from the London College of Fashion.

St Martin's School of Art

Founded 1854.

Four sites, on the edge of Soho, and in Covent Garden.

547 students: 520 advanced; 127 non-advanced (1983/84).

95 teaching staff (1984/85).
Four BA (Hons) degree courses: fashion (full time or sandwich); fine art (painting, print-making, sculpture, film); fine art and critical studies (part time only); graphic design.

Foundation courses one year advanced course in painting, sculpture, illustration; postgraduate courses in fashion, graphic design and computer.

Famous alumni: Bruce Oldfield, typist designer; Sally Brampton, editor, *Elle*.

St Martin's is definitely streetwise. Its prospectus promises that, even more than most art schools, it wants to encourage individual students' diversity.

But with its fine art and graphic design degrees merged by NAB with Central's, it has picked up a little education trendiness: moving off from its traditional strengths of graphics, illustration and fashion, to an attempt to increase ethnic minority student numbers, and London's only part-time first degree in art and design.



Stained glass-style mural by BTEC students, Chelsea.

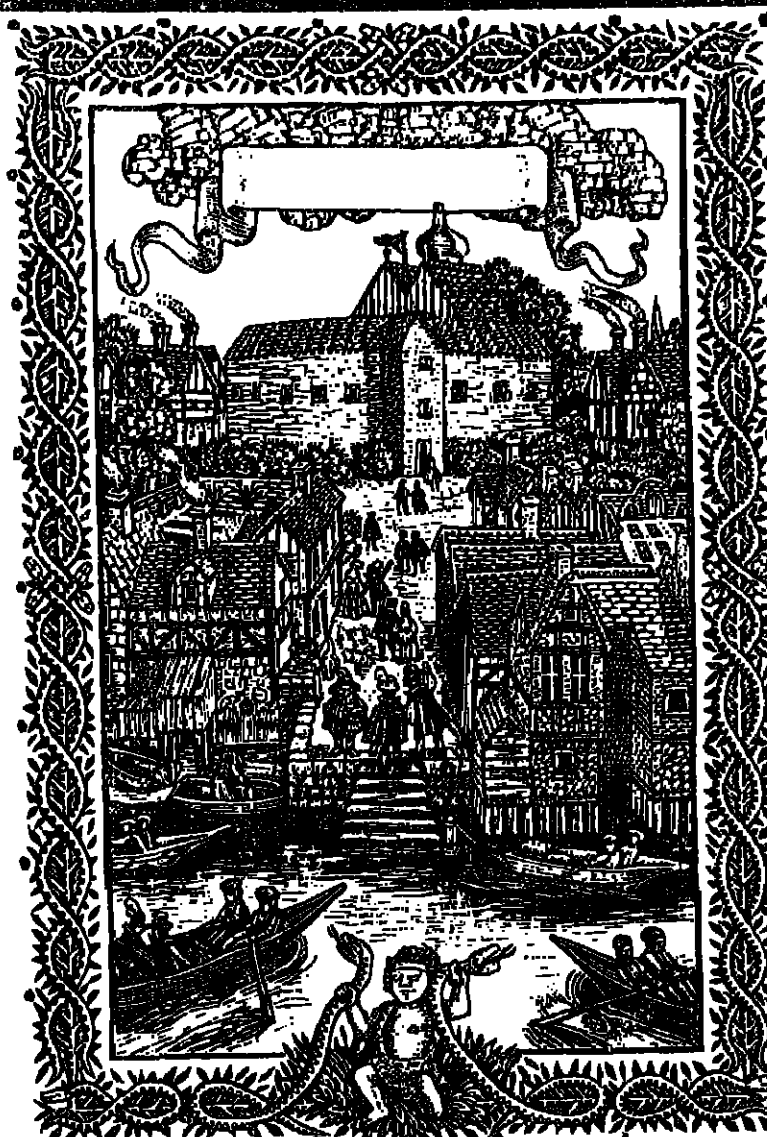
London College of Fashion

Founded 1915.

Four sites: two in the West End, two in the City. 779 students: 193 full time; 586 part time (1982/83).

151 teaching staff (1984/85).
Diploma courses include clothing technology and production; fashion (specialisms include embroidery, fashion writing); fashion modelling; theatrical studies and make-up; hairdressing and beauty therapy. Also Manpower Services Commission courses.

The institute college with the highest proportion of non-advanced courses – over 75 per cent – and at a cursory glance, with apparently the greatest ethnic mix of students. Its principal, Mr Eric Wade, is overtly critical of the "elitist tendencies of the art colleges, and almost a lone voice in wanting the institute organized on a faculty basis – which would give his college an advantage in fashion student numbers to counter the more glamorous image of St Martin's. The college is very close to the industry, he says: it plans to develop a degree course in fashion product development, for would-be selectors for the chain stores. Joe – or rather Jane – Public is even allowed inside: the hairdressing and beauty therapy departments train their students on clients off the street around nearby Oxford Circus.



Woodcut from *The Solid Globe* by Jane Lydbury, printed by The Camberwell Press.

Camberwell School of Arts and Crafts

Founded 1898 as a "technical art school".

Three buildings close together in south-east London.

597 students: 463 advanced; 134 non-advanced (1983/84).

95 teaching staff (1984/85).

Four BA (Hons) degree courses: fine art (painting or sculpture); graphic design; three-dimensional design (ceramics or silversmithing/metalwork); history of drawing and print-making.

Two conservation courses: diploma and higher diploma in paper conservation.

Foundation course and postgraduate courses.

Famous alumni: Barry Fantoni, cartoonist, writer, painter; Malcolm Morley, 1984 Turner prizewinner.

Traditionally Camberwell's reputation has been based on crafts; it still emphasizes draughtsmanship to its students. It lost a degree in textiles in the National Advisory Body 1984 cuts.

It has a cosy atmosphere: it provides far more residential student accommodation than similar colleges, including a delightfully restored street of early Victorian houses. Last year it opened the Camberwell Press, a self-financing printing and publishing house, again in the craft tradition.

Chelsea School of Art

Founded 1896 as part of the South Western Polytechnic.

Four sites in Chelsea, Fulham and Shepherd's Bush.

700 students: 400 advanced; 299 non-advanced (1983/84).

97 teaching staff (1984/85).

Two BA (Hons) degree courses: fine art (painting and sculpture); graphic design.

Two BTEC courses: National Diploma in general art and design; Higher National Diploma in mural, textile and three-dimensional design.

Foundation course: MA fine art (painting, sculpture, printmaking).

Famous alumni: Patrick Caulfield; Michael Moon.

Chelsea has a far higher proportion of non-advanced students (43 per cent) than any of the other art colleges. Its BTEC mural course is the only CNAVA one in the country. 1,500 students, mostly from inner London. It has computing courses for all students. Its atmosphere is more like an ILEA college or polytechnic than any other London art school, even though its national reputation – supported by a recent string of international prizes – is still in fine art. But design at Chelsea is coming up fast, according to principal John Barnicoat: "It's a very comprehensive institution," he says.



Children in Botswana, by photojournalism student Darío Mitterer, London College of Printing.

London College of Printing

Founded 1894.

Three sites east and south-east London.

1,505 students: 527 advanced; 918 non-advanced (1983/84).

297 teaching staff.

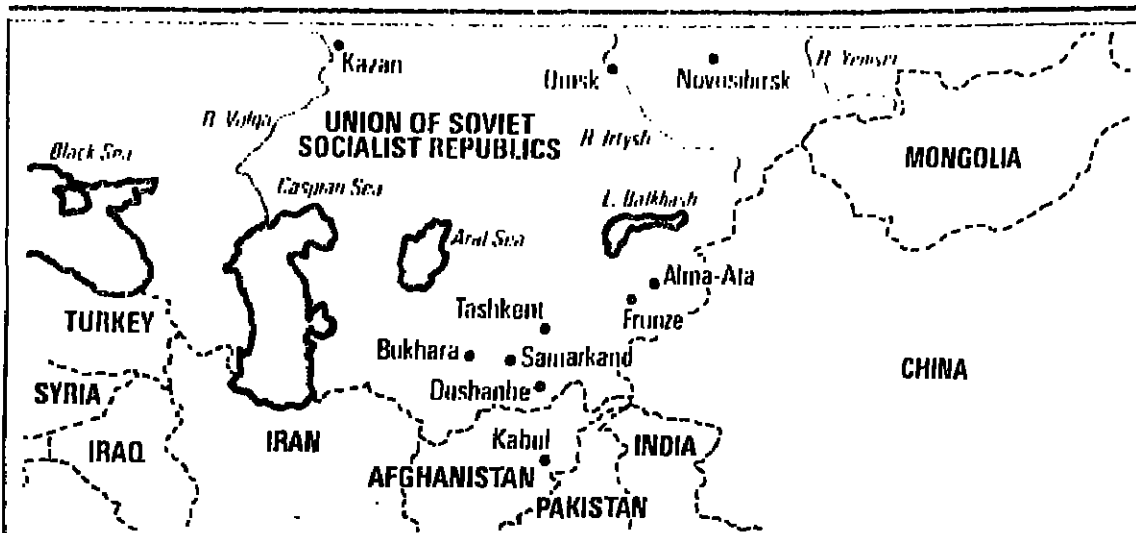
Foundation courses in art and design, media studies, printing, diploma courses in graphic design, photojournalism, periodical and radio journalism, business studies, numerous courses of printing and publishing.

Four degree courses: BA (Hons) in

graphic design; media and production design; photography; film and video.

Half the college's work is in printing: it is the largest national centre for printing education, to the extent sometimes of being accused of being under the thumb of the printing industry. Another 25 per cent of its work is design, mainly graphic design; 10 per cent photography, film and video, and the remaining 15 per cent journalism and business studies.

For all its shirt-sleeves atmosphere, it has beaten Fleet Street in abolishing old hot-metal printing, and recently acquired a gift of £750,000 worth of equipment from a large firm which puts it in the forefront of Europe's printing technology.



Where the dragon meets the bear

Shirin Akiner looks at the study of central Asia, one of the great meeting places of the world

Central Asia is more a concept than a strict geographical definition. A sprawling, amorphous landmass in the heart of Asia (sometimes referred to, in fact, as "Inner Asia"), it has no precise boundaries. At its core lie the territories formerly known as Russian and Chinese Turkestan, which today form parts of the Soviet Union and the People's Republic of China. On the periphery, and often included within the term, lie southern Siberia, northern Iran, Afghanistan, Tibet and Mongolia.

Much of this region consists of barren deserts and inhospitable mountains. Far from being a forgotten, unexplored backwater, however, it is one of the great meeting places of the world. From time immemorial, armies have harried it from every direction, traders have carried their precious wares to and fro along its Silk Road, and scholars and pilgrims have come to pay homage at its shrines. Greek, Persian, Arab, Chinese, Indian, Turk and Mongol each left his own inimitable stamp.

It was a vortex for religions and ideas. Nestorianism, Buddhism, Manichaeism, Zoroastrianism and Islam flourished there. Artistic inspiration too, was passed from one group of people to another, producing a rich cross-cultural fertilization (brilliantly illustrated by the recent *Lotus and the Dragon* exhibition at the British Museum). Islam and the Turkic-speaking peoples eventually came to dominate the region, but the many-faceted heritage is still palpably present.

In modern times central Asia has lost none of its significance. A hundred years ago it was the scene of the "Great Game", with Russia and Britain striving to outwit each other and win another chunk of empire. Further eastwards, Russia was contending with China for mastery of yet more of Turkestan. Today the conflict continues. Some of the actors have changed, but the situation, volatile and unpredictable as ever, is still a matter of international concern.

The future of the region raises a whole range of questions on such issues as nationalism, economic development and strategic importance. At the centre, however, stands the role of Islam - the extent to which it can, and will, govern the actions of its adherents. From Xinjiang to the Ural, from Siberia down to Pakistan, the indigenous population is mainly Muslim.

They live under different political regimes and this, on the surface at least, has provoked a variety of responses. Some, quiescent under Soviet rule, lead a largely secular life. Others, across the border in China, are able to practise their religion more actively. In Afghanistan, Islam has spearheaded the resistance to Soviet intervention; in Iran it permeates every aspect of existence. How, if at all, these different groups of Muslims will influence one another remains to be seen.

Muslims are a minority in the Soviet Union and China overall. But whereas in the latter they form only a tiny percentage of the total population (well under 5 per cent), in the former they are the largest non-Slavic group (about 18 per cent of the total), with a present growth rate three times that of the rest of the population. The interaction between Muslims and other Soviet citizens is therefore of crucial importance, especially with regard to the future of the work force and the armed services.

The position of its Muslim citizens is also a growing factor in the external policies of both countries. On the one hand, the Soviet and Chinese governments are fully aware that their Muslims provide them with an effective showcase for their achievements and intentions in an Islamic environment.

On the other, the Islamic world itself is becoming increasingly sensitive to the fate of its co-religionists under Communist rule. Hence the status of Muslims in these countries is no longer merely a matter of internal concern, but has a major, even critical, role to play in international relations.

Given the long and important history of central Asia and its nodal significance in East-West relations, it is an obvious area to be studied at university. In fact, until now this has not been done. Or, more accurately, the area has not hitherto been approached in its entirety, as a single unit. Individual topics have, of course, been the object of dedicated research, particularly on the historical side. Little attempt, however, was made to draw the threads together, to examine the past as prelude to the present, or to set it in a wider context.

This failure is something that urgently needs to be remedied. Events in Iran and Afghanistan, developments in China and the Soviet Union, the worldwide ferment in Islam, have all served to emphasize the point. Central Asia, for long the preserve of a handful of specialists working in virtual isolation, now requires a more contemporary, more general approach.

However, the very complexity of the subject has made it hard to accommodate within the existing scheme of studies at British universities. Departments of Soviet affairs were primarily Russian-based, and central Asia, with its separate historical, linguistic and cultural traditions, could not easily be fitted into their framework. Centres for Oriental languages and Middle Eastern studies had the opposite problem: they offered the early history, philosophy, religion, and occasionally

the older languages, but the modern period was considered "too Russian" and therefore not their province. Some universities did appreciate the need to overcome such divisions, and to combine, rather than continue segregating, the existing resources. Financial constraints frustrated their intentions, however, and plans remained unrealized. Thus matters continued for several years.

The School of Oriental and African Studies, University of London, then took the initiative. Convinced that there was a priority that could no longer be ignored, SOAS formulated a strong proposal for the creation of an "academic initiative" post. Their arguments carried the day: theirs was one of only three such proposals in the humanities to be accepted by the University last session.

The inauguration of this new post is a noteworthy event in many ways. For one thing, it signals an exceptionally happy convergence of academic demands and practical use. Universities are often accused of having an "ivory tower" mentality. Central Asia certainly provides ample opportunity for abstract research, but a study of the region is also highly relevant to an understanding of the present international situation.

Within the context of SOAS, the post represents both continuity and innovation. The school has always had an interest in the region, though in the past this centred mainly on early periods, a reflection of the old orientalist tradition. (Sir Denison Ross and H. A. R. Gibb in history, W. B. Henning in philology and M. Boyce in philosophy were among several who made outstanding contributions to the field.)

Now it is shifting its focus to the



Wild goat jug with borders of eastern-influenced lotus flowers and buds, from Melos, Greece, 6th century BC.

contemporary scene. In order to make this truly feasible, appropriate funding has been earmarked for supplementary requirements.

Co-operation at all levels is one of the keynotes to university education today. Central Asian studies, involving so many disciplines and political divisions, is a subject ideally suited to the broad, inter-disciplinary approach. SOAS itself can supply many of the ancillary needs, but the vital Soviet element must be sought elsewhere.

Fortunately, it lies ready to hand in the adjacent School of Slavonic and East European Studies which warmly supported the creation of the new post. Janus-faced, central Asia falls within the sphere of both, forming a natural bond between the two institutions. A serious programme of study of the region would be inconceivable without their close mutual involvement.

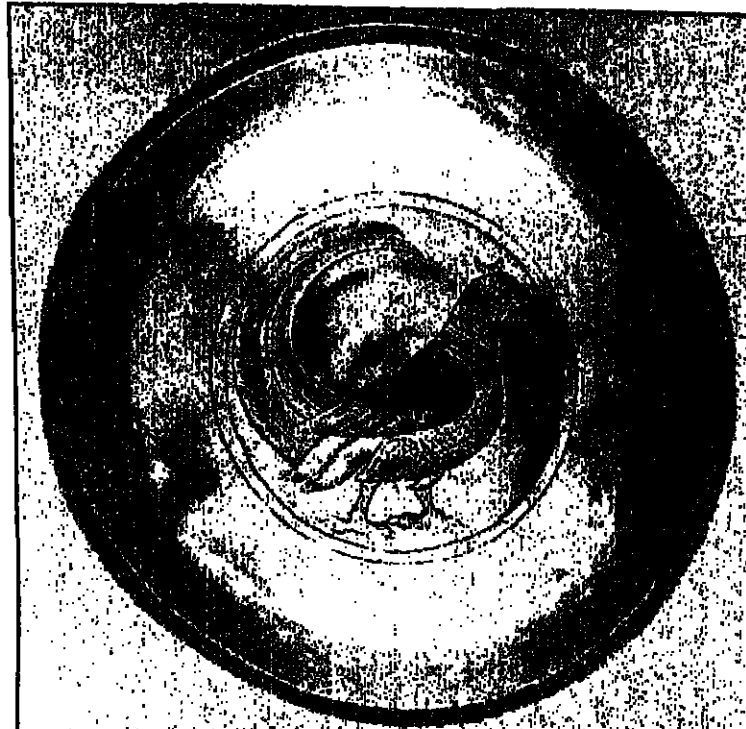
Moreover, the library holdings of SSEES complement those of SOAS. Thus the physical location of the post ensures ready access to two important collections, as well as placing the riches of the British Library within easy reach. The resources of these three institutions, together with those of the India Office and colleges such as the London School of Economics, provide London with a quite unrivalled concentration of material on every aspect of central Asia.

The primary goal of the post is to stimulate research. As a first step, a programme of postgraduate studies is

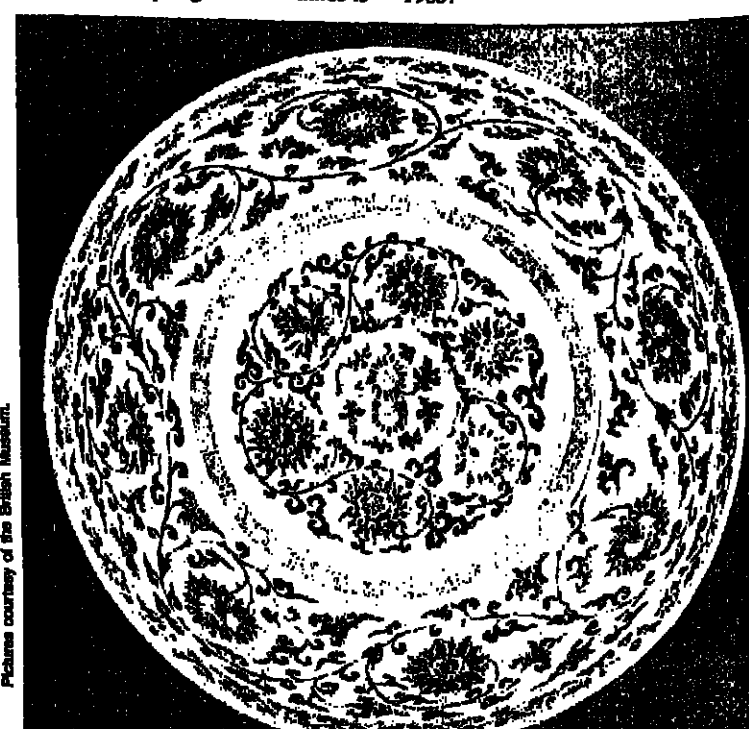
being created. This will co-ordinate relevant subjects already available at SOAS (and other colleges), and add new courses relating to the current situation in central Asia. The undergraduate level will be developed later. Area studies at SOAS have traditionally been language-based, as knowledge of the indigenous languages is felt to be an indispensable tool for research. Uzbek and the other central Asian languages will now also be taught there. Persian and Turkish are already long established subjects and furnish a solid foundation for this fresh linguistic initiative. The central Asian languages are not studied anywhere else in Britain.

The recognition of central Asian studies as a pioneering move not only in the context of the British university system, but also that of Europe and America, where the subject still receives very limited attention. Perhaps the most heartening aspect, though, is the fact that it is a rare sign of faith in the academic future, despite the present gloom of depression. By a bold and imaginative initiative, the University of London has, in the middle of retrenchment and redeployment, opened up a vital new field of study.

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Silver bowl decorated with a bird, from Iran, 5th to 6th century AD. Such bowls were imported and copied by the Chinese.



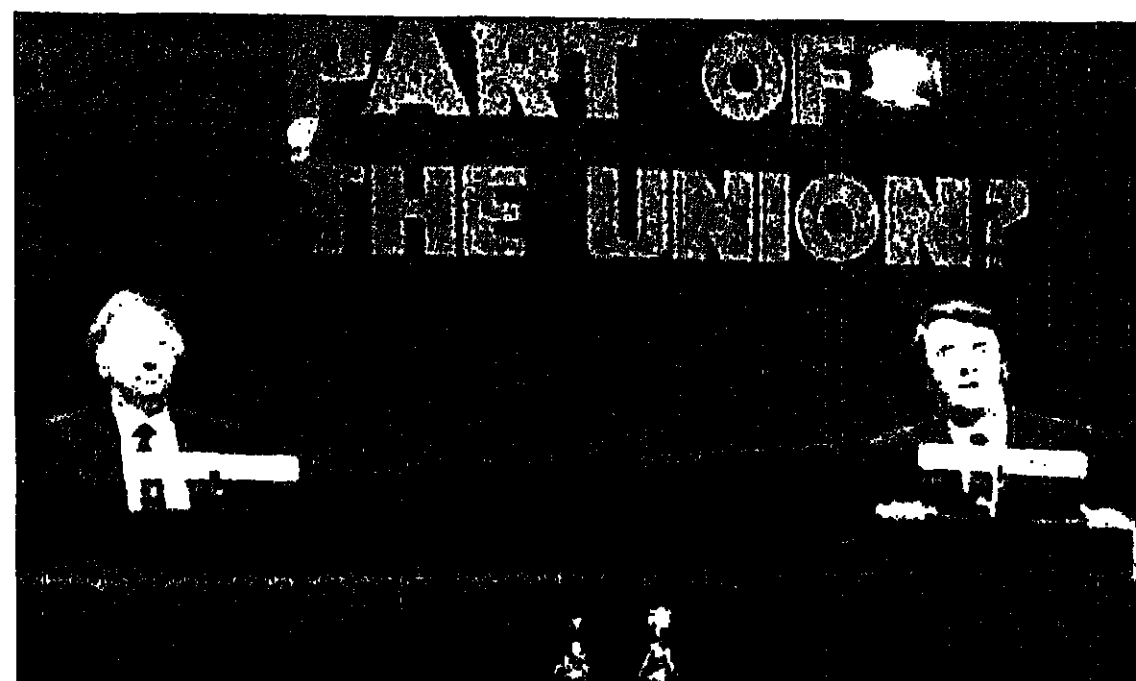
Bowl decorated with lotus scroll, China, circa 1400. Motif is derived from Western acanthus scrolls introduced through central Asia.

The miners' defeat changed workplace unionism, say Christine Edwards and Edmund Heery



Striking scenes... Cortonwood Colliery, now closed, which started it all and the police charge at Orgreave when NUM pickets tried to blockade the coke works

Scargill's pitfall



Arthur Scargill and Notts breakaway leader Roy Lyne in a televised debate

At the Trades Union Congress in September, miners' leader Arthur Scargill denied that his union had suffered defeat in the 1984/85 strike. Having the resolution to urge a future Labour government to review the cases of sacked and imprisoned miners and reimburse the National Union of Mineworkers for financial losses, he claimed that pits earmarked for closure before the strike remain open today because of the union's action.

Of course, Scargill was wrong. The National Coal Board has moved rapidly to close pits since the strike's end. By as early as June the board had announced its intention to close or substantially curtail the operations of more than 20 pits and workshops. More are to follow. The failure of the union, however, was exposed even in the motion Scargill was successful in passing at congress to adopt.

The NUM fought the strike to preserve the industry's 1974 settlement. This was arguably the most successful and far-reaching agreement achieved by any union through collective bargaining in the post-war era. It established that the interests of the NUM and its membership should be among the basic objectives of the industry. The NCB and the Government gave the union what was seen by many as a commitment that coal should once more be a major source of energy, that production and investment would be expanded and that the mines would remain at the top of the industrial wages league.

They appeared to guarantee the industry's workers, and the pit communities from which they were drawn, secure and well-paid employment. The strike occurred because Mrs Thatcher was not prepared to maintain these guarantees. For the Conservative Government, the prime objective of the industry was the pursuit of a market proxy, the cash limit.

The conditions which permitted the NUM to exercise such influence over the industry in 1974 were the renewed infusion of coal to the national economy and the capacity of the union to transform the "positional power" of its members into effective national strike action.

As the strike revealed, both of these conditions have now passed. The first with the onset of recession and Central Electricity Generating Board's investment in alternative supplies of energy; the second with the development of police tactics to counter mass picketing and with the split in the NUM itself. Victory has given the NCB the opportunity to close high-cost capacity pits, to concentrate production in the central coalfield and to introduce far-reaching organizational changes.

The NUM at national and area level has responded to this situation in three principal ways. The first has been to attempt to restore unity and central direction of the union by introducing rule changes to reduce area autonomy. This arises from the traditional preoccupation of the NUM left with preserving the capacity to take effective national action: only a centralized and cohesive union can co-operate as an effective counter to the NCB. The consequences of this strategem have been disastrous. It has pushed the NUM rebels and their allies out of the union and added the presence of an industrial rival to the union's list of problems. Even more, some claim, it has permitted the self-interest of the NUM area to present itself as a principle of defence of union democracy.

A second and very different response has been to transform the NUM into a campaigning organization.

This response has been developed in particular by the South Wales and Scottish areas and bears the stamp of Euro-Communist thinking. The aim is to build support for the union's case across the community in order to apply political pressure on the NCB and the Government to moderate the restructuring of the industry. However, given the inability of such campaigns to mobilize significant sections of Conservative support, their impact is likely to remain marginal.

The third response has been to try to commit a future Labour government to the renewal of the 1974 settlement. This has involved a difficult change in perspective for the NUM, which has in the past preferred to trust to the union's own internal sources of strength and has been extremely wary of entering into pacts with either the Labour Party or the TUC. As the mobilization of the union's own membership has failed to preserve the Plan for Coal, the leadership has been forced to look outside and attempt to mobilize political support in the wider labour movement.

There are a number of problems for the NUM associated with a renewed dependence on the Labour Party. There is no certainty that Labour will be returned to office and even if it is,

NCB chairman Ian McGregor will by then have already completed his surgery. Furthermore, though Labour is committed to a pro-coal energy policy, the leadership is determined not to be tied by the NUM. Neil Kinnock is anxious not to appear as the mere tool of the unions and of Arthur Scargill in particular. The Labour leadership is terrified of the effects of violent scenes from Orgreave colliery being repeated in party political broadcasts in the run-up to the next election.

Each of these responses attempts to continue the struggle against the Prime Minister and Ian McGregor. In different ways they are intended to restore the conditions for the NUM to exercise strategic influence over the industry's development. A fourth response, that of the leaders of the breakaway union, does not attempt to do this. The Union of Democratic Mineworkers is prepared to accept the findings of the industry to market forces provided generous redundancy payments are given to those who lose their jobs and high wages continue to be paid to those who remain.

What are the consequences of national defeat for the local union organization and its dealings with colliery management? Since the strike ended there have been reports of NCB

managers attempting to use their victory to weaken the power of the union within the pits. Union activists sacked during the strike have not been reinstated and concessions have been withdrawn. This raises the issue of whether the curtailing of union influence at the national level has provided for the collapse of joint regulation at the workplace.

The true extent of any "roll back" of the union organization is unknown, but the nature of local industrial relations prior to the strike suggests it is unlikely to be widespread or enduring. In the first place, contrary to popular belief, colliery industrial relations have been characterized by a high degree of co-operation between managers and their local union officials. It is uncertain how many colliery managers will want to abandon these cordial relations for the firmer style favoured by some of their senior colleagues.

Attempts to insist on such a change might be resisted by managers who, by virtue of their strategic position at the point of production, have always enjoyed considerable autonomy from their superiors as long as they can fulfil their production targets. Second, it is unlikely that a confrontational approach would have the desired effect of increased productivity. De-

spite technological development, the efficient extraction of coal is still dependent on the wholehearted co-operation of the workforce. Within the pits, the power of the union ultimately rests on the control of the highly uncertain production process by teams of coal-face workers.

Although the national union appears in disarray, the local organizations, both in rebel and loyalist areas, remain intact to exploit this power resource in pursuit of their members' interests. Although new technology may come to erode this power source, at present it survives and may indeed be enhanced by colliery management's need to restore production and meet new, tougher targets being given them from above. The exercise of the managerial prerogative at pit level, therefore, is likely to continue to be contested. It may be that in many pits gains lost by the union in the immediate aftermath of the strike will be restored in the not-too-distant future.

Workplace industrial relations will not, however, simply resume their pre-strike course. The NCB appears to be committed to a decentralization of much management decision-making, including collective bargaining. The board wants a high proportion of miners' pay to come from locally negotiated incentive agreements and might also consider widening the scope for local bargaining over work organization, particularly shift patterns. This process of decentralization began well before the strike with the introduction of local incentive payments in 1979.

Our research identified several consequences of this change which may be expected to be even more marked in the future. The ability to bargain over a significant proportion of their members' pay had enhanced the power of the local NUM officials in terms of their influence over colliery decision-making, and the salience of the local trade union organization for the ordinary mineworker had increased significantly. However, it had also split the economic interests of workers in different collieries. Whereas under day-wage all interests were focused on national negotiations, under the incentive scheme a substantial proportion of mineworkers' income is obtained through workplace bargaining. As mineworkers in the relatively profitable collieries generally have greater power resources than those in uneconomic pits, they have been able to achieve higher incentive earnings.

Thus, there is likely to be a growing disparity in wages and conditions between the pits in the industry's core, whose bargaining strength will be the greatest, and pits on the periphery which are more vulnerable to closure. The principal casualty of the decentralization of industrial relations, then, will be the solidaristic wages policy advocated by the NUM left since nationalization.

This enjoyed a brief success during the era of day-wage, culminating in the unified action of the 1972 and 1974 strikes. With the collapse of the most recent strike it seems that "subordinate values" must now bow to the competitive principles of the market. Industrial relations in coal mining look set to return to the fragmented bargaining and sectionalism which characterized them in the past.

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The lessons to be learned

If this assessment of developments after the strike is correct what can it tell us generally about British trade unionism and British industrial relations in the context of recession? The first lesson is that the strong roots of British trade unionism in the workplace make it a very hardy plant indeed. Governments and employers may succeed in the set-piece battles like the miners' strike but the outcome of the guerrilla campaign to restore tight management control over labour at work is far harder to predict. The fragmented pattern

of British industrial relations make them inherently resistant to any government-initiated reform, whether it be the 1970s attempt to build a form of corporatism or the 1980s attempt to impose regulation through the law and the liberated market.

The second lesson is that strong workplace trade unionism has very definite limitations. It may provide an effective shield from the harsher winds of recession for those who have jobs but it is of little use in pursuing more ambitious objectives. The miners' strike was fought over the issues of the size of the industry and its place in the British economy. Workplace bargaining, confined to the margins of the employment relation, can obviously not influence such issues.

The miners' strike revealed that even so co-ordinated industrial strength is inadequate when it comes to achieving these goals. The miners, and the trade union movement as a whole, are now dependent on political action to restore any strategic influence they may once have exercised over industrial development.

Pauline Stafford

Whitehall wedded to a cheapening of marriage

Writing a regular column has made me an assiduous reader of newspapers. The lurking anxiety is that the deadline will approach with no topic in mind, or that the current passionate concern will prove potentially too little to write about. As a consequence I comb the papers in search of legally neutral inspiration. It has confirmed my long-held suspicion that only those involved in the media (however peripherally) ever give it such full and engrossed attention.

Who else but columnists in search of a spark need the dense middle sections of the inner pages? It would be a shame if my suspicion proved correct since some of the most interesting and entertaining libris crop up there. It was there, for example, that I recently came across the proposals of Whitehall's efficiency unit for changes in the conduct of marriage.

Inevitably their first concern is cost and money-making; no area is sacrosanct given this government's all-pervading wish to turn a fast buck. A more entrepreneurial attitude is suggested. Local councils might offer video facilities or lavish country house settings at an appropriate price. More significant changes are proposed in the publicity of marriage. It may no longer be restricted to the register office of the district where one or other of the couple live and the marriage banns may go. Registrars reported that their publication draws virtually no response.

Gone are the dramatic days of *Jane Eyre*, the humdrum lives of registrars now undisturbed by the excitement of loud voices raising last-minute objections of consistency, affinity and prior contract. Marriage notice boards are changing their functions. Photographers and insurance agents advertise their services; marital aids are brought to the attention of the innocent, babywear to those who used the noticeboard too late. I feel sure the efficiency unit will recognize the economic potential. But apparently notice boards are no longer secured by the community busbydies with the low-down on the spinsters of the parish. Their functions within a system of moral and social pressure have gone.

Publicity belonged within that system utilizing public knowledge in the interest of conformity, but also of validity. To those for whom the validity of a particular union was of paramount concern, publicity always

Lack of competence held back state regulation

seemed essential; to the Christian church, anxious to enforce monogamy, remove excuses for divorce, to families, especially the propertied, where the establishment beyond all doubt of the fact that X was married to Y affected the legitimacy of heirs.

The state's involvement was not far behind, scarcely surprising since the church and propertied families were its most significant constituent elements. As far back as the ninth century in Frankish royal officials were being instructed to back public inquiry before marriage. Lack of administrative competence held back the effectiveness of state regulation, but the pressures remained substantially the same, culminating in Hardwicke's act of 1753 requiring a church service and prior due formalities for valid marriage.

Prior formalities meant especially the banns. Banns originated in the ecclesiastical desire to enforce not merely publicity but other requirements for validity: the absence of prior union or of a relationship of kindred or affinity. Given the church's major role

in society, such questions once enunciated could not be ignored by either families or state for whom validity was crucial. The requirement of banns was constantly upheld, as was the regulation, backed by convocation in 1604, that marriage be in the parish of one or other party, that is where common knowledge could identify prior impediments.

Banns belonged in the common ground of Christian morality, state regulation and family property, in the whole context of marriage as a social sexual union. When in the late sixteenth century licences were available waiving the requirement of banns, many argued that such waivers were dangerous not simply because of the issues of legitimacy but because they freed the individual from the pressures of family and friends.

State intervention in marriage may begin in these common concerns, but its regulation was fed by its own growing sphere of intervention and competence, producing both the means and the need for precise information on citizens. Publicity was the best insurance of validity.

Eyes observed the months between ceremony and birth

No government or community concerned for example, as it was from the sixteenth century, with the upkeep of bastards on the Poor law could ignore the issue. The rigour of registration grew, with occasional purges on pre-nuptial sex. Was it the same watchful eyes which regularly checked the banns which went on to observe the number of months between church ceremony and birth, a fact then reported in the church courts?

Publicity surrounding marriage was crucial in a society concerned with inheritance and governed by a single official (if not universally observed) moral code. Its forms may have been ignored in many cases, especially by the poor, but they changed only slowly. In our very different social world changes in them are arguably long overdue. The women's movement has produced demands that women be treated as full citizens in their own right and that married status should not make a woman a legal appendage of her husband.

But until such new demands are reflected in legal changes which topple the dominant position of the family the determination of marital status remains crucial. That status affects such a wide range of areas from taxation to welfare provision that its accurate determination remains essential. Thus the publicity involved in registration itself, the basic pattern for the making of marriage must remain unchanged. Registration provides that certainty necessary to a modern society built on the rights and wrongs around the family.

The eclipse of the banns might be taken to indicate the state's abdication of moral functions, its retreat into simple concern for bureaucratic control, the loss of a commonly agreed code. But it is also a result of the state's omniscience. The penalties incurred by non-compliance with its demands coupled with the atomization of society have rendered the function of the local community, institutionalized in the banns, otiose. Cost efficiency may be the over-riding impression left by the proposals on registration and publicity, but the limits within which the proposals are framed are a reminder of what marriage and family still are in the modern state and of the fact that we have exchanged the tyranny of local knowledge for the pervasiveness of government information.

Anti-semitism and the UN

Ten years ago, the 30th General Assembly of the United Nations Organization adopted a controversial resolution which was to attract a great deal of attention and to generate profound controversy.

Resolution 3379 on "the elimination of all forms of racial discrimination" asserted that Zionism was "a form of racism and racial discrimination".

While the UN celebrates its 40th anniversary and on the eve of the announcement by Britain regarding her future membership of UNESCO, Henri Stettinman examines the background and the aftermath of the UN declaration.

The 1975 United Nations resolution equating Zionism with racism was the latest in a series of moves by anti-Zionists to delegitimize the state of Israel and the philosophy of Zionism. Over the last century, anti-Zionism has been advocated by Arabs, Jews, Christians, socialists, anarchists, capitalists and politicians, people in every walk of life. A landmark in the development of anti-Zionism was Israel's victory over her Arab neighbours during the Six Day War of 1967. From that time on, public opinion shifted its allegiance away from Israel - which had been seen as an underdog - and in favour of the Arab nations.

In 1964 and 1965, during debates at the Convention on the Elimination of All Forms of Racial Discrimination, anti-semitism was proposed as a manifestation of racism. The Soviet Union was very much in the vanguard of this. It was the first to be accused of anti-semitism, in view of its poor treatment of its Jewish population. The USSR, in response, submitted that Zionism should be classed as a manifestation of racism.

This led to a bitter discussion that culminated in the compromise that all reference to specific forms of racism (except apartheid) were to be dropped from the draft. By an act of clever and cunning tactics, the USSR prevented a potentially dangerous amendment to a resolution which it supported and, as a bonus, had established a precedent for linking Zionism with racism.

In 1969 the UN General Assembly decided to launch a programme of the Decade for Action to Combat Racism and Racial Discrimination, to begin in 1973. South Africa and Rhodesia were the chief targets.

As collaboration between the USSR, the third world and Arab countries increased, Zionism came up at some point as a common enemy against which all could rally, a unifying trend amongst competing ideologies and interests as far apart as third world Marxists and conservative feudal Islamic sheiks.

When the 30th session of the General Assembly of the UN opened in New York in September 1975, it fell upon the Third Committee, dealing with social, humanitarian and cultural questions, to discuss the decade against racism and racial discrimination.

During the discussion, the delegates from Kuwait, the PLO and the Ukraine expressed the view that Zionism is also a form of racism. A draft expressing that belief was sponsored by the Arab countries, the Soviet bloc and some third world nations. Despite the efforts of the Western countries to have the draft resolution rescinded, it was adopted by a large majority in the Third Committee and subsequently by the general assembly by 72 in favour to 35 against, with 32 abstentions. An alliance embracing practically half the world had brought together anti-Zion-

ists committed to the destruction of Israel with other countries critical of Zionism.

The international reaction which followed the passing of the resolution was mixed. In the Arab-third world-Soviet block alliance there was much satisfaction. In the West there were expressions of surprise and revulsion.

Mr Yitzhak Rabin, Israel's prime minister at that time, said that the resolution was preparing the ground for the annihilation of the state of Israel. Many public figures and most of the media in the West attacked the resolution by explaining that Israel had been established as a safe haven for the Jews, as a reaction against racist, anti-semitic persecution. The doctrine of racial purity and superiority, which advocates the elimination of so-called biological inferior elements, is totally absent from Zionist biology and the policies of the state of Israel, which is home for Jews of all races. (That fact was recently underlined by the absorption of thousands of black Jews from Ethiopia.)

After the vote, the Arab states initiated a campaign aimed at western public opinion and the diplomatic arena, in order to increase Israel's isolation and gain support for the PLO. It is not without interest, ten years on, to assess the effects of the resolution and the subsequent anti-Zionist campaign.

In retrospect, the UN resolution was a success for anti-Zionists in that it brought about a deterioration in Israel's world standing. On the other hand, numerous observers noted that the resolution was a hypocritical one, in that those nations which voted in favour of it were, in their large majority, guilty of racial persecution themselves. Observers have also remarked that the resolution was self-defeating. Support for the state of Israel, it was stated, is exposed by Jews all over the world, and Israel is seen as an important, or even a central element in the Jewish identity. Therefore, an assault on the state of Israel is also an assault on Jews all over the world.

The United Nations itself has been the platform for some particularly vicious anti-semitic remarks in the years following the adoption of the resolution. In the UK the effects went beyond mere rhetoric. At several universities, students' unions decided not to allow Jewish student societies to benefit from funds, facilities, or admission to meetings. Some even banned Jewish societies altogether.

The situation attracted considerable press comment. *The Times*, for instance, in its editorial of April 29 1977, appealed for the National Union of Students and those opposed to the resolution to show tolerance towards Jewish societies. It urged enough support to overturn that intolerance.

The negative effect of the resolution

can still be felt ten years later. At the beginning of this year the Jewish Society of Sunderland Polytechnic was banned for three years on the grounds that its constitution is racist. Clearly, instead of combating racism, the proponents of the UN resolution were here achieving exactly the opposite effect. It should be added that last week, under the threat of being expelled from the National Union of Students, Sunderland student's union agreed to recognize the Jewish Society.

More than one observer has advised the view that the adoption of this resolution by the UN would eventually be detrimental to the UN body itself. The point has been made that the 1975 resolution was contrary to the principles and ideals on which the UN was founded, and thus its credibility and in the long run its ability to survive would be at stake.

Recent events encompassing the United Nations Educational, Scientific and Cultural Organisation are a case in point. In the 1970s a spate of resolutions hostile to Israel were adopted. In 1974, Israel's application was not accepted in any grouping.

While Israel was reinstated later on, this incident was indicative of the extent to which UNESCO was becoming politicized and distorting its original aims. This state of affairs finally led to the United States pulling out of the organization and to Britain giving notice of her intention to withdraw, thereby threatening the whole future of UNESCO.

The 1975 resolution caused Zionist and Jewish organizations all over the world to react strongly against the attack. It seems that the resolution has succeeded in uniting and injecting some vitality into Jewish institutions and individuals. It has also led to expressions of support for Israel and Zionism which would not have been forthcoming otherwise. The vote of Western nations against the resolution was complemented by the view of some circles in the West which held that the resolution was also an indirect attack, masterminded by the Soviet Union, on the Western nations.

The parties to the Arab-Israeli conflict adopting a more extreme stance. In the Arab camp, the resolution provided additional justification to oppose Israel. In Israel, the feeling of alienation from the world community has been encouraged and strengthened the view that there is no point in showing flexibility since, anyway, the world is against Israel.

It could be said that this feeling of alienation from, and contempt of, world opinion, was one of the causes that brought the right to power in Israel in 1977. For the first time in Israel's history, the resolution, then, instead of promoting peace, as called for in the UN charter, had the opposite effect.

Last, but not least, the passing of the resolution has not improved the plight of the Palestinians. True, it has achieved a deterioration in Israel's position in the world. However, in the ten years since the passing of the resolution, Israel and her people have continued to develop - whilst the Palestinians' unhappy condition as refugees endures with little prospect of imminent improvement.

The author is director of the academic study group on Israel and the Middle East.

Modernism's last exit from Cambridge

In Michaelmas term 1980 Colin MacCabe found himself at the centre of a bitter row at Cambridge. The "structuralist controversy" pitched the English faculty on to newspaper front pages and led to his resignation in April 1981. Here, for the first time, he describes his version of events.

In 1973 the Cambridge English faculty seemed to me a moribund and mediocre institution. Of course there were individuals whose work compelled interest but they did not even begin to suggest either an intellectual or educational community.

When I took up my research fellowship at Emmanuel College, I saw it as an opportunity to undertake individual research into literature, politics and language in the 17th century and to devote considerable time to film, which was not even formally recognized as a subject within the faculty.

By 1975, things had changed dramatically. The single most important factor was the arrival of Frank Kermode as King Edward VII professor of English. Kermode is undoubtedly the outstanding English literary scholar of his generation. By training a literary historian or philologist, he was nevertheless alive to much of the finest contemporary writing in both England and America, and most importantly, from my then rather limited viewpoint, he recognized clearly the importance both of Barthes and the intellectual revolution of the 1960s in France.

If he disagreed with much, it was a disagreement founded on a serious engagement with the texts. At the same time as Kermode arrived, Raymond Williams was promoted to a professorial post, and a figure who had been tangential to the narrowly literary enterprise of much of Cambridge English acquired weight and authority.

Although Williams could be described as a literary critic he is more accurately characterized in a self-invented category, as an analyst of culture and society. Of a sudden Cambridge English looked a potentially serious endeavour.

Cambridge was late in producing an English Tripos, almost a century behind London and 30 years after Oxford. But this tardiness brought with it advantage. Elsewhere the subject had to prove its scholarly credentials, stress philology and a grounding in Old and Middle English. At Cambridge, in the aftermath of a war which had left even the most conservative institution open to change, English could unashamedly aspire to be the centre of a new study of the humanities, a modern subject in modern times.

It was in this propitious atmosphere that I. A. Richards went to see Mansfield Forbes, head of the new Tripos and a keen mountaineer, to ask about the possibility of getting employment as a guide in the Highlands. The conversation turned to Coleridge and five hours later Richards was a lecturer in the new subject.

Richards was no narrow literary critic but a man committed to the study of communication, of which he took literature to be the privileged instance. If Richards saw compulsory education and mass circulation newspapers as promoting literacy but degrading literature, his pedagogic enterprise was admirably democratic: to devise methods of close reading, practical criticism, which would enable the individual reader to escape the prejudices ingrained by a degraded education and confront the literary text in all its complexity.

If Richards' presuppositions were democratic and ahistorical, F. R. Leavis's were elitist and historicist. The reading of the past was grounded in a set of psychological reactions shared by all but was a collective effort of argument and assent.

Such collective activity was limited to that minority who could intelligently contribute to such discussion. The crucial social and political effort was to recover the possibilities guaranteed by the living language of great literature and thus to rehumanize the world. Stated thus deeply it seems not only futile but badly silly. But especially in the 1930s, it served to articulate an opposition to capitalism without lapsing into the kind of deterministic Marxism that Leavis demolished so thoroughly in "Under which King, Bezonian?", an article he published in *Scrutiny* at the end of the decade. By the 1960s, however, the thing

was dead. Reference to the close analysis of language had been replaced by the repetition of agreed readings, the engagement with modernism had frozen literary developments at Lawrence. It was in this context that two challenges were mounted to the Leavisite account of literature and language (and whatever the posture of exclusion, the Leavisite account was, by and large, the Cambridge account).

Internally there was the challenge posed by Raymond Williams who returned to teach in the faculty in 1961. Much of the force of Williams's work in the 1930s had been his insistence on the poet as a member of a wider linguistic community, drawing on resources of language which were both social and personal. Williams's attention to language was close, but it was never simply to the individual text but to the discourses and arguments in which the text found its meaning.

It was not the steady decline from an idealized organic community that interested him, but the "long revolution" in which ever greater sections of the population found a voice and a possibility of speaking. These possibilities might not only be found in the changing forms of high culture, themselves always among other things, forms of exclusion, but in the academically despised popular forms of music-hall, film and television.

If Williams offered one possibility for a serious renewal in the study of language and literature, another was offered by George Steiner. Steiner came as a fellow to Churchill College in the early 1960s and was, shamefully, never appointed to a lectureship. However, college fellows did give occasional courses of lectures, and Steiner's were not only brilliantly delivered and massively attended but also expounded new methods and conceptions in the study of language and literature.

If Steiner himself always remained sceptical about this more radical version, his lectures made available to a wide audience in Cambridge continental work which offered an approach to literature and language which differed both from the exhausted tradition of practical criticism and from Williams's emergent project to locate literary and linguistic forms in relation to patterns of economic and political domination.

In 1969 when I joined the English faculty to read for part two of the Tripos, I had already spent two years studying philosophy at Cambridge. After the coherence of the philosophy course, the English Tripos seemed a total shambles. The concept of language at work was a debased form of Leavisite criticism. The tradition of Leavisite texts of Richards seemed totally forgotten or certainly unlearned. As a final straw, modern literature seemed to begin and end with Lawrence and Eliot. Film, television and rock music simply didn't exist.

Among the exceptions to this rule of ignorant banality, the most striking was a very young lecturer called Stephen Heath. I shall never forget the excitement of his lecture course on realism in the European novel. For Heath, realism was located as a particular historical practice, a method of writing which placed both reader and world outside any activity of significance. The modernism of Proust, Joyce and Mann was to disrupt this neutral practice, drawing attention to the text's construction of both reader and world.

The choice of Joyce's language as my topic of research when I graduated in 1971 was partly determined by those lectures and partly by my own background. To a first generation Irish immigrant, educated by monks, Joyce's texts spoke of very specific liberations. No aspect of Ireland's situation was more crucial for him than the fact that English language and English literature were both inheritance and oppression. And that paradox is not limited to Ireland in 1940 on the verge of national liberation. It reverberates down the 20th century both within England while a class,



F. R. Leavis, left; his account of literature was the Cambridge account until challenged by the arrival of Frank Kermode, right, as King Edward VII professor of English. Centre, Colin MacCabe.

defined by Johnson as speechless, begins to find a voice, and throughout the world as the British empire gives way to the empire of English.

I wanted to find terms for describing the relations between language, literature and politics in the period 1930 to 1960 when both the English language and English literature took on recognizably modern forms. Joyce's determination to finish with English literature had, at one level, been singularly unsuccessful. I was now obsessed by going back to its beginnings to understand the persistence of the beast.

When, therefore, in 1976 the faculty advertised a post in English language since 1500 in relation to literature, they advertised the job that I most wanted to undertake in the academic world. My only hesitation about applying was that I didn't yet possess the necessary competence. I had no professional competence either in the detailed analyses of contemporary linguistics or in the history of modern and early modern English. The appointments committee was obviously convinced by my undisguised zeal to master these fields and I was appointed from October 1976.

The next two and a half years were a period in which I worked so hard that even now, I feel physically ill when I think of it. However, by the time I took a sabbatical in France at the beginning of 1979 I felt that I had justified the appointment committee's confidence. The advertisement for the post had not been designed to fit my particular intellectual interests but was part of a confused attempt to find new bases for the teaching of English. A curriculum which had survived unchallenged for 40 years, even through the height of the Leavisite controversy, was increasingly seen as irrelevant.

The English degree at Cambridge is divided into two parts: the first two years are a traditional survey course of English literature, life and thought from Chaucer to the present day; the final year is a more specialist affair where together with some compulsory papers, of which *Tragedy* is the most important, the student could choose to study particular periods or authors.

By 1969 the whole structure was coming under fire. Students, inspired by the example of 1968, wanted more opportunity to determine their own study. Throughout the early 1970s, the faculty reacted by making the part two more and more flexible, particularly through the introduction of dissertations to replace some exams.

Part one, however, remained more or less totally unchanged and it was here the real educational and ideological problems resided. As literary criticism had institutionalized itself throughout the 20th century, it had multiplied its subject matter. Where once you read *Paradise Lost* and Keats's odes, now you had to read Cowley, Crashaw and the whole of Milton, Leigh Hunt, Thomas Love Peacock and the whole of the major Romantics.

If that wasn't already a ludicrous task, the secondary literature had proliferated; not just literary criticism but social history, anthropology and a host of other disciplines which could bring their relevance to bear. And this mammoth task faced students who

were less and less equipped to undertake it, who lacked knowledge of classical literature, knowledge of the Christian religion and the authorized version, knowledge of grammar.

An argument was developing, articulated most ably by Stephen Heath, that the part one should be reduced to a year in which the student would be trained in certain skills of reading and analysis before going on to a part two which would allow a student to opt between a conventional literary course and a more wide ranging series of cultural studies.

With Kermode's arrival and Williams moving from the margin to the centre of the faculty, much seemed possible. When in the Lent term of 1976, the entire faculty narrowly voted against a consideration of reform of the Tripos a group, which included many of the active teaching officers, determined to set up an informal Tripos reform group under the chairmanship of Kermode. The committee could not bring itself to adopt the truly radical part one that had been proposed by Stephen Heath. The chance, if there ever had been one, had come and gone.

However, I still had my own job to get on with, although I was quickly made to recognize how difficult that task was going to be. On my appointment I had been asked not only to undertake my own teaching but to organize and coordinate language teaching in the faculty. Invited at the beginning of 1977 to present my proposal to the faculty board, I had no sooner been welcomed than my presence was challenged by a professor and I was required to leave.

If the aim was to demoralize me I was exceptionally fortunate in the support I could receive in my college. On my appointment to a university post I had moved to a fellowship in King's and into an atmosphere of intellectual cooperation and comradeship - and excitement - which I doubt that I will be lucky enough to know again.

When I first took up my lectureship, I was assigned a couple of research students and another one the next year, but after that, despite the success of my first pupils, I was sent no more. In one case, a supervisor had been sought outside the university rather than have a pupil allocated to me. I demanded an explanation from the degree secretary. This man, whom I had always admired, told me that he was merely the servant of a committee some of whose members thought I influenced my students too much. Under the impact of this Socratic compliment I determined to leave Cambridge once I had been upgraded.

Upgrading is a procedure peculiar to universities to retain the post of assistant lecturer. These are non-renewable five-year appointments but when they come to an end the faculty board has the option of recommending the creation of a new permanent lectureship.

I had assumed that the original opposition to my appointment had been based on the understandable grounds that I did not possess all the

competence the job required. The original appointments committee had backed me as the candidate most likely to acquire the skills that I did not already possess. I thought I had accomplished all that I had been asked to do.

Given this and my publication and teaching record, I felt that my upgrading would be quasi-automatic. The faculty board debated for hours before reaching an inconclusive vote. At a second and extraordinary meeting and after more lengthy and bitter discussion, the board decided by one vote to create a lectureship to which I be appointed.

There was, however, still a further administrative formality in that an appointments committee had to appoint me to the newly created post. In October 1980, at the start of my fifth year lecturing in Cambridge, that committee voted against me by four votes to three in an unprecedented move. Early on in my appointment, as people seemed to resign at the mention of my name, I had talked to I. A. Richards, back in Cambridge in retirement. His advice was to keep working: both as a means of retaining one's sanity and as the most appropriate response to local jealousies.

In the Michaelmas term of 1980, for the first time, I found this advice difficult to follow. I was heartened by the degree of friendship and affection I found in the university, but Cambridge's devolved structure leaves appointments committees sovereign and, short of suspending the faculty, there was little the university could do. At the end of the Michaelmas term, my case was reconsidered. This time the vote was four to three in my favour but five votes are needed to secure an appointment and I was out. King's offered to keep me on as college lecturer, but I had no desire to remain in Cambridge without a faculty job. I had in the meantime been applying for jobs elsewhere and in April 1981 I was appointed to a professorship of English at Strathclyde University.

In the midst of all this, the country had been treated to the amazing spectacle of the "structuralist controversy". By calling a debate in the university senate, my supporters brought the case into the public arena and the newspapers had a field day.

By calling me a structuralist my opponents revealed their ignorance about both structuralism and my own work. Not content with sacking me, the faculty in the same term voted both Kermode and Williams, its most eminent members, off the appointments committee, a root to branch solution to all future intellectual problems.

If arguments about teaching English had political effects those effects could not be mapped on to an already existing political argument. What became evident to me in the course of the fight at Cambridge was that there could be no comfortable division between politics and the humanities.

The author is head of the production division at the British Film Institute. This is an edited version of his introduction to *Theoretical Essays: Film, Linguistics, Literature* published by Manchester University Press.

Weighing out the pots of gold

The amount that the Government pays to keep the university system going has been decreasing in real terms year by year, and all the signs are that it will go on decreasing. It is no longer enough both to provide teaching of good quality for the present number of students and to support all the research that university departments are capable of doing. That has been true for some time, but the situation is getting worse. If the number of students in universities is reduced, the Government grant will be correspondingly reduced - though if the number of students is increased, the grant will not be increased. So the pressure must fall on the research side. If the best research is to be adequately supported, the less good research will suffer more; but this is better than a policy of inadequate support for everybody. It is for this reason that the University Grants Committee has committed itself to a funding policy which is selective on the research side.

No such argument applies on the teaching side. It costs just as much to teach a course to a student with nine points, at A level as to a student with 15. Undoubtedly good teaching should be rewarded. But I know of no university which has found a way systematically to identify good teaching, and certainly the UGC is in no position to do so. I hope that our successors will discover how to do so, and that one day our successors will be able to reward excellence in teaching as well as excellence in research. But that day has not yet come.

Money should not be shifted from one subject to another except by deliberate decision

The expenditure of a university cannot be neatly divided up into items for teaching and items for research. Many kinds of expenditure, academic stipends for example, support both teaching and research. But it is generally agreed that something between 30 per cent and 40 per cent of a typical university's expenditure is for research and the rest for teaching - and the percentage varies quite substantially from one subject to another. If the funding of research is to be selective, and the funding of teaching unselective, then the amount of money which the UGC has for distribution among universities needs to be divided into a part to be distributed on teaching-based criteria and a part to be distributed on research-based criteria.

But there is another, equally important, division of that money. It has been widely said that the new allocation process is a covert device for shifting money from the arts to the sciences. That is false, and it is important that the allocation process should be such as to make it clear that that is false. Indeed, this goes further: it is important that money should not be shifted from one subject to another except by deliberate decision of the UGC or by shift of student numbers. (In contrast with 1981, shifts of student numbers are likely to be small and most of them will be at universities' own request - though we shall not be able to agree to all the requests that universities make.) So for each subject we calculate a pot of gold, which will normally be based on what was spent on that subject across the university system in 1984/85. Only in a few cases will this figure be deliberately modified; but for example we believe that computer science has been seriously underfunded in the past, and that the cost differential between physical sciences and engineering has been bigger than it should be.

Calculating what was spent on each subject in 1984/85 is not so easy as I have made it sound. Departmental expenditure is straightforward; almost all departments lie clearly within a particular subject - though the situation has been made more complicated because the University Statistical Record chose this year to introduce a new subject classification. But non-departmental expenditure has to be taken into account also. In each university we have split this between subjects, partly in proportion to student numbers and partly in proportion to departmental expenditure.

As the University Grants Committee prepares to launch its new funding policy, Peter Swinnerton-Dyer gives a 'child's guide' to how it will work

Once the pot of gold for a given subject is known, the first step is to split it into the part which is to be allocated on teaching-based criteria and the part which is to be allocated on research-based criteria. This split will vary from subject to subject, depending on our judgement of how expenditure in that subject is divided between teaching and research. On that question there is quite a lot of evidence available, starting with the "diary exercise" of 15 years ago. A typical split might be two-thirds for teaching and one-third for research.

The teaching component will be distributed between universities in proportion to planned student numbers in the subject at the various universities. In some subjects these numbers will be weighted to take account of the fact that undergraduates, taught postgraduates and research students cost different amounts; in other subjects I expect them to be overweighted. The values of the weights in each subject are among the many things that have not been determined yet, not least because we shall be influenced by what is contained in the universities' statements due at the end of November.

This straightforward approach reflects the lack of selectivity on the teaching side - other than in the effect of special factors, which are described below. The process on the research side is more complicated. In the experimental subjects, and to some extent outside them, university research is funded by the "dual support system". In the days when this worked properly, it meant that the UGC grant provided well-founded laboratories in every university. Much research could be carried through on the basis of that funding alone. But if someone wished to undertake a particularly large or expensive research project, he could apply to the relevant research council for a grant earmarked to that specific project; and if the proposal was promising enough, he would get the grant. Cuts in funding mean that we now have no more than the tattered remains of the old dual support system. But it remains true that a research council grant means only the exceptional part of the cost of a research project, and every research council grant a univer-

Unless we produce more wealth we shall not be able to afford the university system

sity receives imposes extra costs on it. We estimate that these extra costs average at least 40 per cent of the value of the grant, and one component of the UGC grant to each university will therefore be 40 per cent of their research council grant income. This will of course come out of the research component of the individual subject pots of gold, so that it will not be a means of shifting money from arts to science. But it will tend to shift money towards those universities that do well in the research council steepchase and away from those that do badly. In some subjects, charities are an important source of research support. Many such charities make their grants according to the same principles, and grants from such charities will be taken into account in the same way as grants from research councils.

In recent years, universities have been strongly encouraged to become more involved with industry, and to do



more to ensure that their research develops into wealth-creating commercial products. Indeed, unless this comes better at wealth-creation than it has been in the recent past, we shall not be able to afford the university system we have become accustomed to. Industrial research contracts are meant to cover the full costs, direct and indirect, of the research - and if possible somewhat more. Frequently they fail to do so, because industrialists are better bargainers than academics. But it would be quite wrong for the UGC to supplement industrial research contracts in the way that it will be supplementing research council grants. However, success in attracting industrial research contracts must count in a department's favour, and we shall be including modest bonuses to those universities that do well in this area.

The sums described in the last two paragraphs come out of the research component of each subject's pot of gold. What is left is divided into two parts: one part to be distributed in an egalitarian way to ensure that every department has some research base, and one to be distributed selectively in accordance with our judgement of research merit and potential. Logically, the egalitarian part should be distributed partly in proportion to planned academic staff numbers and partly in proportion to planned research student numbers, in each subject. However, there is no such thing as planned academic staff numbers; so the best we can do is to estimate staff numbers from planned student numbers. Overseas students generate academic staff just as home students do; so for this purpose, and this purpose only, we take account of the estimated number of overseas students as well as the planned number of home students.

Of all the parts of the allocation process, it is in the distribution of this selective component that judgement plays the greatest part. We shall make use of all the help we can get - advice from research councils and other learned bodies, and in technological areas from industry. We have a good deal of factual quantitative informa-

tion of various kinds, though inevitably we are better provided with this in the sciences than in the humanities. But as much as anything else we shall make use of the statements of the universities themselves - particularly their research plans and the objective evidence of research quality which they provide. We do not pretend that we shall be able to do a perfect job. But we do believe that we shall produce a better distribution of the amount of money the Government provides us than would have come from a non-selective process.

What I have described so far cannot easily take account of the special

The university will be free, as it always has been, to spend its total sum as it chooses

features which every university has, and which by one means or another ought to be taken account of in calculating its grant. The means we are adopting is the so-called "special factors". These, unlike the selective parts of the process described above, are not necessarily merit-related. Some of them will be quite large - for example the addition to the grants for London, Brunel and City universities to allow for the fact that the salaries and wages of their staff attract London weighting. Some of them will be quite small - for example the extra money needed for a unique department whose preservation is in the national interest but which does not attract enough students to justify it on purely arithmetic grounds. The list of special factors which we have already generated is very diverse; and we have written to every university to ask them what other special factors which are relevant to them ought to be taken into account.

Nearly all the work described so far consists of looking at universities department by department. Most of this work will be done by sub-committees, because on any particular subject the relevant sub-committee is more expert than the main committee itself. But

when the assessments of individual parts of a university have been made in this way, it is of the utmost importance that they should be looked at together, to see if they add up to a sensible assessment of a university as a whole. For this purpose the members of the main committee are being divided into six small groups (some serving on more than one group) and each university will be assigned to one of these groups. At the start of the exercise, each university's full submission will be looked at by the corresponding group, who can in the light of that give some guidance to the subject sub-committees. At a late stage, the same group will look at the proposed allocation to the university, built up from the sub-committees' recommendations and the various special factors. Those that look odd when considered as a whole - in particular if the proposed grant differs a lot from the current one, either upwards or downwards, will be considered by the full main committee.

The grant to a university under these new procedures will be made up of a lot of little bits. But these bits will be added up and announced as a single sum; and the university will be free as it always has been, to spend that sum as it chooses. Sometimes this will be in ways that the UGC did not expect. There is an important question, not yet wholly resolved, of how much the UGC tells an individual university about the way in which its grant was made up. In keeping with the policy of openness, we would like to tell universities as much as possible. Some vice-chancellors would prefer not to be told too much, because they feel that such information diminishes a university's freedom to use its grant as it sees fit.

This has been a very simplified description of what will be the called process. There is a more complete and detailed account, copies of which are being sent to every university. If you wish to criticize the way in which the allocation process will be carried out, you should at least read the detailed account first and base your criticisms on that.

Leader, back page

The author is chairman of the University Grants Committee.

The genesis of secrecy

by Paul Kennedy

Secret Service: the making of the British intelligence community by Christopher Andrew Heinemann, £12.95 ISBN 0 434 02110 5

Secret Service is a remarkable book, a feat of historical detection. Throughout this century the British government has systematically sought to prevent the public acquiring knowledge of its intelligence branches, and at times has virtually suggested that they do not exist. Unlike the other departments of state, therefore, these agencies have not handed over their old files to the Public Record Office on the improbable grounds, as Christopher Andrew notes, that "the release of documents on British intelligence operations in Germany during the Agud crisis of 1911 or in Russia before the Bolshevik Revolution of 1917 might threaten national security in the 1980s."

In consequence of this bureaucratic obstructionism, the author has had to cull his materials from an extraordinary variety of alternative sources: from the private letters and diaries of persons previously involved in the British intelligence services; from interviews; from the records of American departments which liaised with their British

counterparts; and, curiously enough, from the files of various British ministries which were inefficiently "weeded" (as they should have been) of all references to the Secret Service. It is a nice irony to see that, despite the strenuous efforts of Whitehall to destroy or withhold all knowledge pertaining to the intelligence services, important revelations have popped up elsewhere: in Washington, for example, or in a report in the Treasury files, detailing the costs of the Secret Service. For ten years or so, Dr Andrew has employed this roundabout way of getting at the historical record, and the results would make the great sleuth of Baker Street proud.

The second remarkable feature of this book is that it is so funny. If this is partly because of Dr Andrew's mischievous, sardonic sense of humour and his unerring eye for the absurd - as those who have listened to his radio broadcasts or watched his lectures will know too well - it is also due to the fact that much of the early history of the British Secret Service was absurd. Founded amid waves of alarmism about surprise invasion, about German spies dressed as waiters, and stuffed other threats to the Empire, regulars and amateurs and irregulars, all possessing only a rudimentary idea of what intelligence-gathering was all about, the early agencies contained characters and

perpetrated actions which were worthy of *Monty Python's Flying Circus*.

Thus, the indefatigable and eccentric Cumming, the legendary "C" who was the first head of SIS, was by 1917 recommending that, after testing, the best invisible ink to be used by his agents in the field was semen. The equally ingenious device of using pigeons to carry messages across the Western Front lines was always subject to vicissitudes - including the elimination of a whole batch of them which unfortunately chose to land on a hungry section of the Canadian Corps - but by that time the mythology about the sheer ingenuity of the Secret Service was such that when one of their more irreverent members mentioned to a British General that plans were afoot to cross-breed pigeons with parrots ("thus producing super-pigeons capable of reporting by word of mouth"), he was warned off for divulging top secret information! Alarmist cranks, larger-than-life adventurers of the Sidney Reilly sort, academic eccentrics - from "Dilly" Knox who did his codebreaking in the bath, to Alan Turing who buried his life savings in a tin in Blechley Woods during the Second World War but failed to find them when the conflict ceased - crowd into these pages, making it an enjoyable read from cover to cover.

There is, however, much more to *Secret Service* than a series of what the dust-jacket terms "farical confusions". The third remarkable feature of this book is that it attempts, in the first systematic study I know of, to integrate the history of British intelligence with the history of the country's diplomacy and strategy. Precisely because the Whitehall establishment has been so chary of giving away any information about the secret services, large tracts of British political, diplomatic and military history have been written without regard for what Dr Andrew and Professor David Dilks have elsewhere referred to as "the missing dimension". It is true, of course, that a vast array of popular and rather irresponsible authors, like Ladislav Farago, "Nigel West", and the inexpressible Chapman Pincher, have written colourful accounts of moles, spies, spycatchers and secret agents galore, and laid claims for the immense impact of these James Bondian figures upon public policy. But all of those non-professional historians - who get their come-uppance in Dr Andrew's controlled, if severe, notes - had a tendency to exaggerate the importance of certain heroic individuals and were incapable of setting intelligence matters into the broader political and strategic context.

To see the story being retold by a professional historian is, therefore, a delight. Two examples may suffice to illustrate what new dimensions this sort of work brings to political and diplomatic history. The first concerns the story of the notorious "Zinoviev Letter" of 1924, ostensibly an exhortation to revolution to the British working classes from Moscow, which when



Alan Turing

published by the Conservative opposition helped to discredit, and bring down, the first Labour Government in the general election at the end of that year. What Dr Andrew shows is that the Russian government had for years beforehand been sending many similar messages to British sympathizers or to Indian nationalists (driving Curzon into alternating fits of rage and despair); and that these items had been regularly intercepted by the "codebreakers" of the Government Code and Cypher School. Whether or not the text of the Zinoviev Letter was genuine, therefore, is less significant than the fact that it was a fair reflection of Soviet messages at that time. On the other hand, Dr Andrew feels, there was no doubt that various members of the intelligence services, eager to discredit the Labour Government, "leaked" the gist of the Zinoviev message to the Tory opposition, hoping thereby to embarrass their own political masters. Older works, which (depending on their ideological viewpoint) argue that the whole affair was simply a Soviet plot or a Tory plot, are now in need of revision.

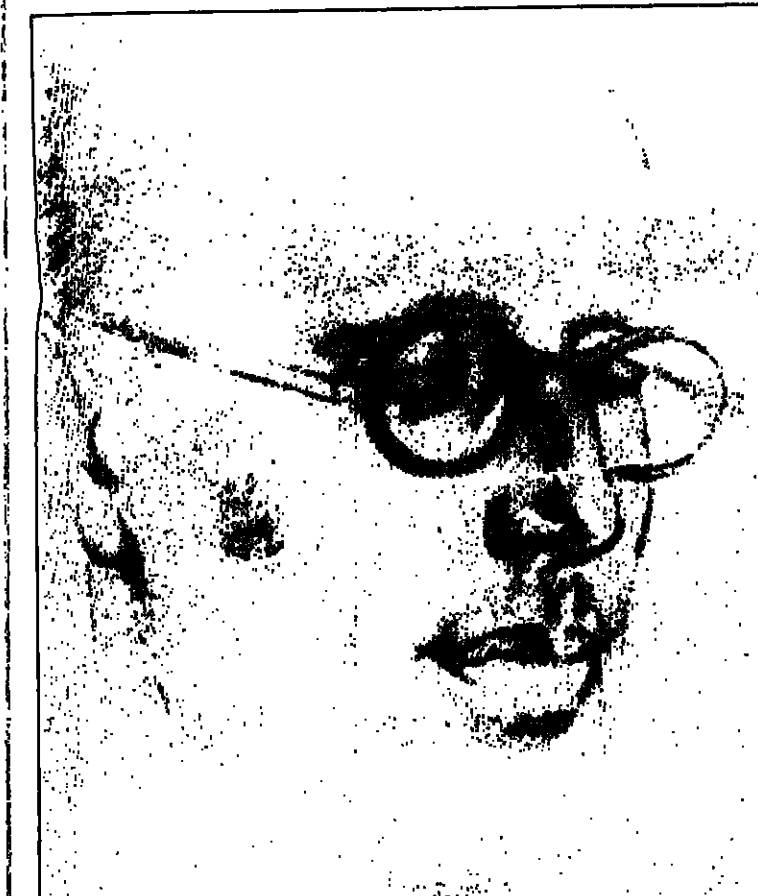
The same must be said, with even larger implications for diplomatic historians, about British "appeasement" policy in the late 1930s. This ground which has been repeatedly ploughed by scholars, yet *Secret Service* offers innumerable new perspectives once it is appreciated that the head of the SIS, "Quex" Sinclair, was an active policy-adviser to Neville Chamberlain during the Munich crisis of 1938, reinforcing the Prime Minister's conviction that it was vital to avoid war. Because of the importance of having accurate intelligence about German intentions, and of the extraordinary difficulty of discovering what Hitler was really up to during the frequent alarms and excursions of the late 1930s/early 1939 (on all of which Dr Andrew is extremely good), one can now understand much better than before the British government's inde-

cisions and misjudgements as it stumbled through the Prague and Polish crises.

Dr Andrew is less original, although still very useful, in his coverage of the 1939-1945 period, not only because those years have been studied in numerous books on *Ultra*, the "Double-Cross System", the Special Operations Executive (SOE) and the like, but also because of the government's uncharacteristic decision to allow Professor Hinsley and his team to produce their multi-volume work on *British Intelligence in the Second World War*. This, incidentally, makes the more mysterious Whitehall's ban upon the publication of Michael Howard's "official history" of British deception techniques during the war. Obviously, it has proven to be extremely difficult for a slight, inbred, elitist community to sort out what types of historical data concerning intelligence can safely be let out to the public. It is merely repeating an earlier point to say that Dr Andrew's book is impressive in the amount he has managed to discover despite such taboos.

Secret Service is, then, an important book. It is lively and witty on the one hand, and yet very scholarly and substantive on the other. It amuses and educates at the same time. It is an extraordinary find of detective scholarship. It is a significant contribution to British military and diplomatic history in this century. It is very reasonably priced, well produced, and extremely well indexed. Its flaws are not many - I felt that at times it was a little too tedious, and that its coverage of the 1939-45 war was less substantial than that of 1914-18. In sum, this is one of the most useful books to have emerged on British history in the past few years. It is also - dare one say this? - a splendid Christmas present for one's father, or uncle, or (if one is really greedy) for oneself.

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Dillwyn "Dilly" Knox, sketched in 1933 by Gilbert Spencer

The media watchdog

War and Peace News by the Glasgow University Media Group Open University Press, £16.00 and £5.95 ISBN 0 335 15071 3 and 10598 X

The Glasgow Media Group performs an invaluable public service in subjecting news coverage of foreign and military affairs to minute analysis. Taking the journalists at their word the group assesses reports for "balance and impartiality", and comes up with examples like the following BBC report of a military coup in Turkey.

Turkey has a long border with the Soviet Union on the southern flank of NATO, and the West have been watching with gloom the troubles building up there. So putting aside a few crocodile tears about democracy, most western observers

are quietly pleased that the region looks that much more stable tonight than it did last night. Particularly since it may improve the prospects of Greece returning fully to the NATO fold.

One can well imagine the authors of this congratulating themselves on communicating a bit of realism to the viewers, without a thought for what it suggests about the moral status of the western alliance. One more opportunity to communicate the dilemmas of alliance missed!

War and Peace News, the latest in a series of book-length analyses of the content of defence-related media coverage, began as an analysis of the treatment of the United Nations Second Special Session on Disarmament, which took place in New York in 1982. Though of great interest to the Glasgow group's sponsors, the Joseph Rowntree Charitable Trust and Unesco, proceedings of the UN General Assembly could hardly have been expected to generate great enthusiasm in the British media, and receive only one short chapter in the finished book. Pride of place goes to the Falklands war. Other topics include

game as played over President Reagan's zero option and START initiatives, the Anglican debate about nuclear weapons focused on the report *The Church and the Bomb*, demonstrations at Easter 1983, and current affairs programmes.

So much exhaustive and exhausting detail leaves me feeling a little guilty. One admires the civic responsibility of the watchdog, but what is the non-broadcasting reader to do with it all? The detail will provide yet another focus for the debating of particular points by those immediately involved in making programmes and advising the programme-makers, but for the general reader two other kinds of book seem to be needed more urgently. First, we surely need an accessible, short and intensely memorable collection of examples, to alert the widest possible audience to the shortcomings of news coverage in general, and perhaps especially in the defence field. This is perhaps especially vital in schools, where it is difficult for teachers to assemble pointed yet responsible examples, in print and honestly to get the point across with sufficient background to avoid involving the teacher in dubious over-com-

mitment about politics. (The Turkish example above is a good instance of what can be put forward without divisive and destructive charges of politicking. The moral dilemmas of NATO are recognized across most of the political spectrum; the more cynical varieties of political realism are not the common coin of alliance deliberations, whatever the hapless author may have supposed.)

Second, we surely need a careful account of what is reasonable to expect of our broadcasters, and of the implications for politics. The news seems *prima facie* to be a singularly unpromising channel for the communication of any but the simplest rational content. Current affairs, and can convey a simplified, over-dramatized version of debates which are occurring elsewhere, in print and face-to-face. The Glasgow group seem to have higher expectations than these, and in a way need to have, in order to call to account public services which make elevated claims for their products - claims which can be debunked only at the cost of a still more debased public life.

But while we must hold our broad-

casters to the highest standards, we are perhaps in danger of misleading ourselves about political realities if we attach as much significance to particular breaches of the standard as books like *War and Peace News* encourage us to do. The amount of space devoted here to the Belgrano, to mention one example, suggests an underlying view of politics which is apt to become fixated upon symbols. The Glasgow group and its sponsors appear to have at heart the good causes of improved great power relations and disarmament. For those causes to flourish, the rational arguments need to be won in print and in the debating chamber, in ways which current affairs programmes can be expected to reflect however belatedly and crudely. What is flashed upon the screen as "the news" makes the debate harder to win, but a perfectionist view of the media makes the task harder still.

Barrie Paskins

Dr Paskins is lecturer in war studies at King's College London, and was co-author of *The Church and the Bomb*.

BOOKS

Accepting finitude

Philosophical Apprenticeships
by Hans-Georg Gadamer
MIT Press, £18.95
ISBN 0 262 07092 8
Gadamer's *Hermeneutics: a reading of "Truth and Method"*
by Joel C. Welsch
Yale University Press, £20.00
ISBN 0 300 03321 6

One of the most encouraging intellectual events of the 1970s was the emergence of Hans-Georg Gadamer as a real presence on the English-speaking philosophical scene. Not only has Gadamer attained prominence as a star pupil and exponent of Heidegger,

Giving the lie

Recent Essays on Truth and the Liar Paradox
edited by R. L. Martin
Clarendon Press: Oxford University Press, £18.00 and £8.95
ISBN 0 19 824713 2 and 824712 5

The paradox of the liar is an ancient puzzle which raises important philosophical problems for an understanding of the concepts of truth and meaning. It gets its name from an early version, in which a Cretan is represented as saying "All Cretans are liars". Efforts to isolate the source of the paradox in what the Cretan says have resulted in refinements of the paradox's statement, for example by casting it in the form: "The sentence you are now reading is false". It is immediately recognizable that, on the face of it, if that sentence is false, as it claims to be, then it is true; and if true, then it is false. There is more than an amusing brain-teaser here, for the paradox generates acute difficulties for our grasp of semantic concepts, the attempt to be clear about which has dominated much recent work in philosophy. The essays in this volume address precisely these difficulties.

but more and more he has gained attention as a major thinker in his own right. English-speaking students and admirers of Gadamer's work are fortunate indeed to have his memoirs made available in Thomas McQuarrie's excellent series, "Studies in Contemporary German Social Thought". The book offers a set of charming and richly detailed sketches of Gadamer's experiences as student and teacher in the course of his very ample and illustrious career. Gadamer, now 85 years old, still teaches with an astonishingly youthful vigour, and can scarcely be said to have retired in any sense. Although the term hermeneutics gets used today with more frequency than understanding, the basic experience on which Gadamer builds his theory are quite simple and familiar ones: that the experience of responding to and being captivated by a work of culture is not a solely "aesthetic" phenomenon, but rather, changes the very being who experiences it; that in confronting such a transformative object of art, culture, or history, one does not suspend who one is or where one comes from but attempts—in opening oneself to the truth of what is alien—to

join what one already is with what addresses one, that the "event" by which this truth discloses itself is not under the sovereign control of all subjectivism. These experiences, self-evident as they are, were never theoretically articulated as such until Gadamer did so.

Gadamer's hermeneutics offers a kind of philosophy of limitations, or what Gadamer once called "a metaphysics of finitude". It provides no transcendental grounding for human experience, as sought by Gadamer's neo-Kantian and phenomenological teachers. Rather, it accepts the finitude implicit in the actual historical dialogue in which we find ourselves immersed, prior to any theoretical reflection. However, this attention to the historical dimension of our experience does not entail any relativization of the idea of truth, as many have claimed in response to hermeneutics. On the contrary, Gadamer attempts to place such claims to truth, whether of art, culture, or history, in the concrete setting within which we first experience them. The "truth" of a compelling and revelatory poem is something

we encounter in pre-theoretical experience, as participants who are moved by a work of art, not as detached spectators who seek epistemological grounding in a cognitive method before venturing a judgement. This aspect of Gadamer's philosophy—its embrace of finitude without foregoing the claims of truth—is expressed in Gadamer's preoccupation with the relationship between philosophy and poetry, and in the fact that he develops his hermeneutics under the banner of the philosophic poetry or poetic philosophy of Plato.

While Gadamer rarely departs from the concerns of the "pure" philosopher, wholly absorbed in the movement of ideas, one may detect a kind of social-political dimension to his work. As expressed in *Philosophical Apprenticeships*, it can be formulated as follows: to wrest the objects of humanistic or cultural understanding out of the clutches of the middle classes, and to restore the seriousness of the humanities against the bourgeois monopoly of cultural pretensions. One finds a key to this intention in the following passage: "My hermeneutical attempt... sought to go beyond the

bourgeoisie's blind faith in education (bourgeois *Bildungsreligion*), and to bring it back to its original power." In another place he remarks: "The calm distance from which a middle-class educational consciousness takes satisfaction in its educational achievements misunderstands how much we ourselves are immersed in the game and are the stake in this game." In a more cutting passage, Gadamer relates how he had tried to suggest to Ortega y Gasset that he should "follow up the *Revolt of the Masses* with a book on the revolt of the middle class, but he of course did not do this. Instead world history has taken up precisely this choral refrain and shouted its theme in unison into our ears." In this anti-bourgeois animus, we perceive the continuing impact of Heidegger's radicalism.

It is said by many critics that Gadamer is a historicist, in a sense intended to impugn his work. But does it sound like the utterances of a historicist when Gadamer exclaims, "is that not what thinking means—to be between the times?" or when he offers the motto borrowed from Goethe: "He who philosophizes is not at one with the premises of his times?" or when he says that the true philosophical function of scepticism is "to harden what no scepticism can kill because it stands fast as superior truth?" As Gadamer has stated his position:

"The hermeneutical experience is the experience of the difficulty that we encounter when we try to follow a book, a play, or a work of art, in such a way as to allow it to address us and lead us beyond our own horizon. It is by no means certain that we can ever recapture and integrate the original experiences encapsulated in those works. Still, taking them seriously involves a challenge to our thinking and preserves us from the danger of agnosticism or relativism."

The fundamental lesson of Gadamer's hermeneutics is that the decisive insights in the humanistic pursuits like art, history, and philosophy exceed what we are able to establish by methodical reasoning and demonstrable proof. As Gadamer quotes Hegel: "Arguments are a dime a dozen." To say this, however, is not to renounce truth, but to acknowledge the very condition of its possibility in the human sciences. Joel Welsch, in his splendid commentary on *Truth and Method*, succeeds in capturing this insight in a way that is admirably faithful to Gadamer. Perhaps the fact that this very fine study is the work of a professor of English is an indication that literary critics and students of literature, who have been infatuated with the deconstructionist creed of Derrida in recent years, are now at last beginning to turn to the less dazzling but more salutary guidance of Gadamer.



A Roman actor wearing a tragic mask, circa AD 150; a picture from Glynn Wickham's *A History of the Theatre* (Phaidon, £25.00).

A. C. Grayling

Dr Grayling teaches philosophy at King's College London.

Degrees of reality

Anselm's Argument: the logic of divine existence
by Robert Brecher
Gower, £16.00
ISBN 0 566 05022 6

According to many interpreters, Anselm's ontological argument regards existence as a perfection. If, as Anselm asserts, God is that than which nothing greater can be thought, then God exists, since something greater can be thought than anything which lacks a perfection. Such interpreters believe that this argument is invalid, since it is based on the logical error of treating existence as a predicate.

Brecher understands Anselm's reasoning differently. Anselm, he says, holds the platonic view that there are degrees of reality. Fictional entities—those which depend entirely on human invention—have the lowest degree of reality. Any entity which exists in reality is greater than any which is merely a fiction. And so that than which nothing greater can be thought cannot be merely a fiction. Brecher claims that the ontological argument is indeed formally valid; but

whether or not it yields a true conclusion depends on the coherence of the platonic metaphysical system it uses and on which the formula "that than which nothing greater can be thought" relies for its meaningfulness.

Accordingly, Brecher goes on to discuss the nature of the greatest being in platonic metaphysics (which, he considers, is what Anselm defines as that than which nothing greater can be thought). Since it depends on nothing and is eternal, the statement that this greatest being exists cannot be contingent: either it is necessarily true, or it is necessarily false. If it is possible to think about this greatest being coherently, this being therefore exists. But it is not enough merely to be able to say that it is self-sufficient and eternal, for "then all that is left is something which is eternally and self-sufficiently whatever more than an empty absolute, the emptiness of which would weigh conatively against the acceptance of the metaphysical system whose culmination it was". Whether or not God exists, Brecher concludes, depends on whether it is possible coherently to combine the personal attributes of the Judeo-Christian God with the attributes of the greatest being in platonic metaphysics.

Many individual arguments in his book, as Brecher fully acknowledges, have been anticipated by earlier philosophers. The intellectual background

Ronald Beiner

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of Anselm is treated vaguely and at second-hand. Some pieces of analysis are lacking in clarity: for instance, at times Brecher seems not to distinguish between sentences which express false propositions, and sentences which are meaningless. The value of this book depends on the persuasiveness of Brecher's position as a whole. But it is convincing only if that than which nothing greater can be thought (as posted by Anselm) is the same as the greatest being of platonic metaphysics, and if all Christian thinkers envisage God in terms which are, in part, platonic. Each of these statements is dubious. Anselm wrote, not "that than which there is nothing greater can be thought", but "that than which nothing greater can be thought". There is not one, single sort of platonic metaphysics, but many different varieties: Anselm's platonicism draws on Augustine's and Boethius's, but is not the same as either. And platonicism, in its many forms, characterizes some, but not all, Christian thinkers: Augustine, Boethius and Anselm, no doubt; even perhaps Aquinas; certainly not William of Ockham. Brecher's discussion should be considered with care and respect, but also with caution.

John Marenbon

John Marenbon is a fellow of Trinity College, Cambridge.

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BOOKS

Near misses

Britain and Joseph Chamberlain
by Michael Balfour
Allen & Unwin, 125 00
ISBN 0 01 943191 3

"What place will Balfour have in history?" Lloyd George was once asked. "He will be like the scent on a pocket handkerchief," came the reply. Historians, quite obviously, have given us substantial Balfour biographies with terrible regularity, and in recent years the output by the Chamberlainians has matched them.

But Joseph Chamberlain exercises a very different attraction. Professional not dilettante, pishful not languid, Chamberlain concentrated on big problems and big solutions where Balfour smothered them in sepulchre. He might have been the chief architect of British national development and national forces in the late 19th century as Lloyd George was in the 20th. Yet in every enterprise he appears to have failed: the National Liberal Federation, the Unauthorised Programme, the Home Rule crisis, the Jameson Raid, the Anglo-German "alliance", the Boer War, old age pensions, tariff reform. Always in the target area, Chamberlain invariably found himself in the wrong place. Beaten at the Board of Trade and the Local Government Board under Gladstone, he embroiled himself in the Colonial Office under Salisbury. Yet he was nearly Chief Secretary for Ireland in the 1880s, nearly Secretary for War in 1895, and nearly Chancellor of the Exchequer in 1902 – the post for which he was pre-eminently suited.

Indeed, Chamberlain's career, as Professor Balfour points out, is a temptation to exponents of "counter-factual history". If Ireland had been set on the path to self-rule in the 1880s; if the Edwardian social reforms had been enacted in the 1890s and the labour movement retained within the radical fold; if South Africa had been handed by a government of the left... the possibilities are intriguing and invariably bound up with Chamberlain. One near miss is hardly noticed by the author, namely Chamberlain's failure to turn his four-year courtship of Beatrice Potter (later Webb) into marriage. The union of her scholarly powers and his executive drive might have produced the greatest constructive partnership in British history. Alas, Miss Potter, route-marched around Chamberlain's glasshouses at Highbury, concluded that marriage to him would turn her into one of his orchids – much admired, regularly fed and watered, but irremediably pot-bound.

Chamberlain merits attention, as Professor Balfour shows, because he diagnosed certain fundamental questions facing British society. Could the political system be adapted to satisfy those who had gained from industrial wealth? Could the economic and political system be adapted to satisfy those who either were not gaining or felt dissatisfied with their gains? How could the right balance of resources between consumption and investment

be found in a democratic society? How could Britain overcome the bleakness of her small size and meagre resources as larger states caught up and threatened her economic and military security? With such questions in mind the author has departed from an original intention to write a biography in order to set Chamberlain in broad historical context. Thus the book begins by considering the conditions which led to industrialization, proceeds to an examination of the evolution of radical political thought from the 17th to the 19th century, and only then introduces the Chamberlain family background. This is followed by separate chapters on the phases of his career, first in Birmingham and then nationally.

Primary sources have been eschewed in favour of secondary works, and, as a result, though the book reads well the material is familiar. On the whole questions are suggested rather than thoroughly explored. For example, it is surprising that Balfour does not develop the thesis articulated by Martin Wiener in *English Culture and the Decline of the Industrial Spirit 1850-1940* about British economic decline as a cultural phenomenon. Imperialism is another interesting case. Balfour says that for Chamberlain the real rationale for the Boer War lay in convincing the public

of the importance of empire to Britain's economic might, and thus in averting the polarization of politics on class lines. This should open the way to an evaluation of just how popular the empire was, and of Chamberlain's contribution. Similarly tariff reform is swiftly disposed of at the end of the book. Yet this is where a deeper analysis of Britain's eventual drift to protectionism would have been appropriate.

A book shorn of the routine narrative sections but organized instead around five major themes – British entrepreneurship, Ireland, state collectivism and the working class, imperialism, tariff reform – would have yielded greater results. As it is this is an unusual book which defies simple categorization. It is not quite a biography, nor a textbook, nor a synthesis, nor an original monograph, though it has suggestions of all four. My feeling is that, like Chamberlain himself, it does not quite come off, but the interest and the virtue lies in the attempt that has been made to tackle important issues. It reflects an approach which will give biographers food for thought.

Martin Pugh

Dr Pugh is senior lecturer in history at the University of Newcastle upon Tyne.



Joseph Chamberlain

Historical style

Carlyle and the Burden of History
by John D. Rosenberg
Clarendon Press: Oxford University Press £19.50
ISBN 0 19 824840 0

Julia Margaret Cameron's breathtaking photograph of 1867 sets the tone, from cover and titlepiece, for this attractive and eloquent evocation of Carlyle's historical writing. In no sense is the result a biography: Professor Rosenberg takes the life as read and examines instead the texts of a variety of studies, of which *The French Revolution* was the greater part of his attention and laud.

The emphasis hangs, to some extent, on a judgement about Carlyle's career of achievement as an historian. A weird beginning with *Sartor Resartus* – hardly a history at all – blends into a communion with *The People* through the three volumes on the Revolution. This makes the 1830s a high period. Then Carlyle polemicalizes with *Chartism*, goes wrong with *Heroes*, turns downright unpleasant with *Past and Present*, deepens the deviancy with *Cromwell* and finally jumps the rails altogether with *Frederick the Great*. There exist perfectly good technical reasons for finding this trajectory plausible but there are hints that Rosenberg wants to make more normative statements than these. That first paragraph, for example, when Emerson's horse clops "across the desolate hills of Dumfriesshire" in search of the centinel Sage, threatening one sense to rescue him for society and turn him into a decent, liberal sort of chap.

Anyway, two Carlyles certainly appear: the genius of the 1830s from whom "Every oddity of style, every element of structure in *The French Revolution* works to make palpable to the reader the 'bodily concrete coloured presence of things'; and the vineyard misanthrope of the 1840s and beyond whose work culminates in a failure "as undeniable as the grim humour that accompanies it". What Rosenberg seems to admire in the early volumes, and to discover little trace of in the later, is an ability to fix in the mind (author's and reader's) an impression of contiguity with a real and accessible past as the rampart press somehow claws last experience to the very edge of presentness. Raw inspiration weighs heavily with Rosenberg as a constituent of that operation but he also identifies textual devices without which the effect would disappear.

It follows that the explanatory methods of literary criticism – Rosenberg is a professor of English – come into play to reveal the contours of Carlyle's text. Typically, a quotation is spread like an insect pinned to the page; we then hear how the passage contains plays designed to catch a resonance or chill the nerves. The description of 12th-century England in *Past*

and Present thus turns into a prosaic poem that merits the analysis one might discover in one of Rosenberg's other books on Tennyson or Ruskin. "The brief, repetitive cadences echo the lesser rhythms of daily life... until the lesser cycles compose one macroscopic cycle, cattle led to men in their rising and in their return to their lairs, day joined to night, season to season, all pivoting on the great axis that joins the habitations of men to the Heavens above and the Hell below." Enter *Cromwell*, "a man", Carlyle says, "living upon victuals". Rosenberg explains: "The jolting awkwardness of the writing and the plebeian victims... are meant to shock the reader out of the dreary world of historical fiction and into the world of historical fact."

An enthusiast could contrive, indeed, to write another book superimposing a fourth dimension on Rosenberg's third by reflecting on the commentator's own fascinating responses to Carlyle's descriptions. Robespierre's "silence before his accusers", notwithstanding their having strangled his shattered jaw to his face with a rag, "echoes Jesus's refusal" to answer his accusers. "In the heat of Carlyle's 'earnest loving glance', apparently, 'the void black Night' of the past becomes luminous."

Closely observed

A History of British Trade Unions Since 1889
volume two: 1911-1933
by Hugh Armstrong Clegg
Clarendon Press: Oxford University Press, £40.00
ISBN 0 19 826298 2

It is 21 years since Clegg, Fox and Thompson produced volume one of this monumental work. To many, it was a pioneering breakthrough in trade union history – shattering myths, placing the stamp of approval on some new ideas and drawing attention to the rich vein of trade union material available in storehouses such as the Royal Commission on Labour 1891-93. Though shorn of its collective authorship, the second volume is, on balance, a worthy successor.

It is a considerable work, of more than 600 pages, and bears the stamp of thoroughness and considered opinion, which is the hallmark of Professor Clegg's style. It is a closely observed study which ranges over some of the most contentious issues in British trade union history – syndicalism, the shop stewards' movement, Black Friday, Red Friday, the General Strike and the collapse of the second labour government – interweaving these events into the evolution of collective bargaining. Clegg argues that despite the fluctuating fortunes of the trade union movement, it was much more integrated into British society by 1933 than it had been in 1910. Its political influence had increased, legislation having affirmed

its right to take political action, the number of workers covered by collective agreements tripled, written agreements replaced custom in industrial relations, governments intervened to force the operation of collective agreements, and the TUC had "been enhanced almost beyond recognition". In general, the trade union movement was rarely in conflict with the rest of society – though the General Strike was clearly a major exception. And by 1933, it was a confident, not a defeated and depressed, movement that existed in Britain.

One of the most interesting aspects of this study is the detailed manner in which Clegg dismisses the influence of syndicalism on the militant trade union action of the immediate pre-First World War period: it played a small role in strike activity and exerted only a limited impact upon the trade union movement because of its failure to deal with the "practicalities of current trade union organization". In the final analysis, the demand for industrial unionism was barely relevant to the prevailing structure of trade unionism. Other areas of the book are similarly well grounded and perceptive.

Nevertheless, the protracted time-span of the project has meant that numerous specialist works on British Labour and trade union history have emerged to nullify its impact on some areas. The short account of the General Strike adds nothing new to the findings of the numerous publications on the dispute which appeared in 1976 and there are far more detailed discussions available on the conflict between the General Council of the TUC and the second Labour government than appear in this volume.

Moreover, there are many missed opportunities. The broad issue of the impact of strikes upon trade union and

self-conscious effort at exegesis relaxes into a more comfortable remark.

Always helpful in guiding his reader to an excellent essay on "Carlyle and the Present Tense", Rosenberg has less to say about Carlyle's conceptualization of the past tense. We see, certainly, an extract from the essay "On History" (1830) but the crucial problem raised there about narrative – the use of successive statements as a vehicle for synchronic experience – drifts into a different discussion about beginnings and endings: the trenchant remarks of a Croce or Collingwood or Hayden White never come within earshot. The canon deemed appropriate to an understanding of Carlyle is overwhelmingly a literary progression from Milton to Joyce: the current of historical thought in which Carlyle also swam rarely impinges. Yet it was an heir to that tradition, Croce, who wrote about burdens: the writing of history as "one way of getting rid of the weight of the past"; and if Carlyle felt the weight of that burden then his suffering demands an insight beyond the exegetical.

Michael Bentley

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BOOKS

Travellers' tales

American Poetry and Culture 1945-1980
by Robert von Hallberg
Harvard University Press, £20.50
ISBN 0 674 03011 7

The history of the United States may be regarded as a betrayal of the Union ideals on which the country was founded, and its literature read as an expose of the process by which, in every generation, the American dream becomes a nightmare.

The contemporary period would seem to substantiate this view, with its baleful litany of red scares, race riots, presidential corruption, assassinations, and humiliation in Indo-China. This sequence of disasters has elicited such poems as Lawrence Ferlinghetti's *Yesteryear Description of a Dinner Given to promote the Impeachment of President Eisenhower*, Robert Bly's *Listening to President Kennedy Lie about the Cuban Invasion*, and Allen Ginsberg's *The Fall of America*. In a thoroughly revisionist account of the era, however, Robert von Hallberg rejects the idea that American verse is typically alienated from mainstream ideology. His thesis is that the most distinguished poetry produced since 1945 has a sophisticated, confidence and subject-matter directly expressive of the nation's new global authority, alliance and cultural coherence.

Professor von Hallberg announces at the start that his approach will be relativistic and historical, assessing poetry in relation to the conditions of its production, not in relation to supposedly immutable aesthetic standards. He readily admits that this methodology predisposes the argument in favour of what Karl Shapiro called "culture poetry", that is, poetry which consciously engages with contemporary attitudes and experiences. Consequently, his study makes no attempt to be comprehensive. Instead, the argument proceeds in a series of paired essays, the first establishing a cultural context for a given tendency in verse, the second examining in detail the work of one or two exemplars.

Hence, an account of the growth of systems analysis is followed by a discussion of those poems in which Robert Creeley and John Ashberry consider communal behaviour codes; a chapter on the postwar travel boom and its accompanying literature is followed by one on James Merrill, whose *The Thousand and Second Night* is adjudged "the richest tourist poem of the last thirty-five years"; an essay entitled "Politics", largely devoted to elevating consensus verse at the expense of protest poetry, is buttressed by another praising Robert



"A concert in the year 1846", an engraving based on a popular view of Berlioz's flamboyant conducting, with a vast orchestra and deafened audience. A picture from *The Cambridge Music Guide* edited by Stanley Sadie with Alison Latham (Cambridge University Press, £15.00).

Lowell's *History* for its defence of liberal values; a chapter on poets who sought to accommodate popular culture is paired with an extended analysis of Ed Dorn's comic masterpiece *Slinger*; and the book ends with a review of younger poets, like Robert Pinsky, Mona Van Duyn and James McMichael, who have written without condescension about middle- and lower-middle class suburban mores.

The author undoubtedly succeeds in his avowed aim of proving current poetry to be variously implicated in the concerns of the dominant culture. In the process, he debunks certain established reputations (Allen Ginsberg, Robert Duncan, Denise Levertov, Robert Bly); he leaps laurels on the heads of the little known (Turner Cassity, Charles Gullans, James McMichael); he recharts the progress of acknowledged masters (proclaiming *History Lowell's magnum opus* when it is usually taken as evidence of declining powers); and discredits the reductionist orthodoxy that American verse is at its best and most American when departing from, or calculatedly wrecking, regular metres. The chapter on "Tourism", in which von Hallberg artfully identifies the travel motif in recent poetry with the USA's assumption of the custodianship of the western world, would alone make the volume worth purchasing. It is a braising and highly provocative study.

This is not to say that von Hallberg is above reproach. In an earlier, full length critique he argued that Charles

Olson's poetry went into steep decline when the fifties gave way to an indulgent era that accorded him guru status. The present volume might be regarded as an extension of the proposition, sixties poets being routinely deployed in an unfavourable contrast with those of the preceding and sequent decades. Von Hallberg's point is well made that the protest poetry of the Vietnam years involves a shrill, hectoring, demagogic rhetoric; but he seems too little aware that a preference for moderate, inclusive modes of poetic address can mask an equally partisan espousal of the status quo.

It is pertinent that not one of the authors studied in depth should be female, proletarian, black, hispanic or politically engaged; nor is the possibility put to the test that poetry has been as deeply affected by the ugly aspects of American life as it has by tourism or popular culture: there is no room here for such illustrious but disquieting figures as John Berryman, Sylvia Plath, Charles Bukowski, LeRoi Jones or Adrienne Rich.

To every text its context: written during the Reagan administration and partaking of its nostalgia for the Eisenhower era, Professor von Hallberg's is a brilliant but partial, not to say sanitized, reappraisal.

John Osborne

Dr Osborne is lecturer in American studies at the University of Hull.

One of many

A Reader's Guide to Contemporary Literary Theory
by Raman Selden
Harvester Press, £15.95 and £4.95
ISBN 0 7108 0658 2 and 0618 3

After years of guerrilla warfare it begins to look as if modern literary theory has become an accepted part of academic literary study in Britain. At least the appearance of Raman Selden's guide encourages one to think this. For, contrary to the claims of the avant-garde, it is not the first "easily accessible account of contemporary literary theory", but at least the fifth; and while its further claim may be right, that it deals with a wider range of theories than its predecessors, the interesting fact is that its selection and classification of these theories is to a large extent the same as theirs. There seems now to be a fair degree of consensus about the general shape of the subject and about what matters in it.

The book is divided into chapters on Russian formalism, structuralism, post-structuralism, and Marxist,

"reader-orientated" and feminist theories. Its most distinctive feature is probably the space it gives to English-language writers as well as to the Continental theorists from whom their work mostly derives; it deals with the Terry Eagleton and Fredric Jameson, David Lodge and Jonathan Culler, the Yale deconstructionists, Edward Said, Gerald Prince, Stanley Fish, Holland, David Bleich, and English and American feminist critics. This is obviously a strength, and makes for a useful reference book. But it may also be a difficulty in a text intended as an introduction. A large amount of different work is discussed in a fairly slim volume, and a consequence is that the significant divergences between theories are not always adequately brought out.

In particular the sections on the theoretical foundations of Marxism, structuralism, post-structuralism and reader theories could usefully have been longer, while classical psychoanalytical principles receive even less attention. For the uninitiated reader venturing into such a conflict-ridden field, an adequate understanding of such matters seems more important than a wide, and potentially confusing, coverage of individual theorists. Selden uses Roman Jakobson's six-function model of language to distinguish between the different kinds of question theories ask about literature, but he gives only a partial sense of

the extent to which different theories call each other into question.

There are other, more particular omissions in the book: Anglo-American New Criticism, no doubt on the grounds that it could no longer be called contemporary; the "myth" criticism of Northrop Frye and others, which Selden argues, reasonably enough, has not become part of the academic mainstream; Soviet semiotics, of which much the same could be said; and, rather more surprisingly, most of the work that falls under the broad heading of "stylistics", including the main part of Jakobson's enormously influential linguistic poetics.

However all introductions to literary theory are necessarily characterized by what they leave out, which must in large measure be a matter of personal taste. Overall Selden's guide stands up well to comparison with its predecessors, even if it is not all that different from them. It covers some topics which they have omitted, it provides some useful practical illustration of the applications of theories, and is generally well-written, clear, impartial and to the point. Like most of the other introductions, it also contains useful suggestions for further reading.

David Robey

David Robey is a fellow of Wolfson College, Oxford.

Great Romantics

English Poetry of the Romantic Period
1789-1830
by J. R. Watson
Longman, £15.95 and £7.50
ISBN 0 582 49259 9 and 49258 0

The windswept figure of John Martin's *Barclay*, harp in hand, greets us from the jacket of this new student's introduction to Romantic poetry. The choice of this over-familiar painting as cover illustration, when it has already performed such service for M. H. Abrams's influential study of the same period, *Natural Supernaturalism*, does not lead us to expect anything radically new from the contents. Nevertheless, the book must be considered with regard to the more modest aim of the Literature in English Series to which it contributes, which is to provide a "critical introduction to the major genres in their historical and cultural context".

Watson begins by devoting three chapters to general themes and to the conditions in which Romantic poetry took shape. He ranges with a scholarly eye over views of the poet as prophet, contemporary theories of imagination and organic form, and the impact of the American and French revolutions. There are useful comments on the picturesque and the sublime, and on the opposition to industrialism and enclosure, and a section on dreams that is less assured in its use of Freud.

There follow individual chapters on the six great Romantic poets. Watson's approach is heavily chronological and biographical, and he sticks closely to the received canon of major works: the chapter on Coleridge, for example, virtually stops at the "Dejection" ode. His treatment of Shelley is perhaps the most suggestive, but the most valuable task he performs may be to publicize as prominently as he does, in an additional chapter on minor poets, the undervalued work of John Clare.

What is missing in this book – all the

more so as part of a series that is also committed to providing "new and informed ways of reading literary works" – is an awareness of the diverse re-reading of Romanticism that has taken place in recent years as a result of broader developments in literary theory. Some of this material appears in his generous bibliography, but too often it is labelled for advance students only, which may simply scare students off.

More importantly, Watson's own criticism suffers from a certain theoretical innocence. To take one simple example, in the chapter on Blake he claims that "The Tiger" eludes "symbolic interpretation", but then launches into one of his own by taking it as a series of authorial speculations on "God the Creator", as though this were self-evident. He thus ignores alternative readings which take the speaker of the poem to be a limited persona, or the creator to be the poet and the tiger the poem, or which refuse such determinations altogether. It is not that any one of these readings is more correct than Watson's, but that there is no reason other than interpretive assumptions why any of them should be more correct. Watson appeals implicitly to a consensus that no longer exists – if, indeed, it ever did. There is, too, a sense of dislocation between the "background" chapters and those on individual poets, and therefore some confusion as to how individuality may be isolated from what is shared, inherited, or socially conditioned. Watson takes the Romantics too exclusively on (and in) their own terms, and references to the "God-like imagination" or the "mystical magic" of its products indicate the extent to which he is trapped within the Romantic discourse he purports to analyse. Students may well find this book useful as an introduction, but unless they move on to some of those "advanced" studies they will be missing much of the excitement of recent work on Romanticism.

R. J. Jarvis

R. J. Jarvis is writing a book on *Milton and Wordsworth, and the theory of poetic relations*.

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BOOKS

Runs on the franc

The Politics of Depression in France 1932-1936
by Julian Jackson
Cambridge University Press, £25.00
ISBN 0 521 26559 2

The period before the Second World War was no *belles époque* for France: it was a time of troubles, of economic decline, political ferment and class struggle against the background of the growing threat from a resurgent Germany. In the 1920s there were many Frenchmen who looked back to the pre-war years with nostalgia; there could have been few in 1945 who wanted a return to the 1930s. This study by Julian Jackson helps to explain why.

Concentrating on the debate over economic policy between 1932 and 1936, it is based largely on proceedings in Parliament and press comment. It underlines the disastrous consequences of the failure of politicians to grapple with the effects of the world economic depression or the specific problems of French capitalism. Poorly educated in economics they may have been; but that is not the point. Educated economic opinion was reflected in the policies they pursued. The orthodox view of bankers, "experts" and civil servants was that the answer to depression was deflation: cuts in government expenditure making possible a balanced budget. Memories of the 1920s, when the franc was amputated of four fifths of its pre-war value, guaranteed the support of middle-class public opinion. The deflationists did have a coherent theory (not always made clear in the book) but, put into practice, its immediate effect was to worsen the depression, for the peasantry as well as industry, and agrarian class divisions until the country was brought to the brink of revolution.

Although the impact of the depression was milder than in other countries, in France it was more prolonged. Dr Jackson never satisfactorily explains why this was so or the extent to which deflationary policies were to blame. The determination to maintain the value of the franc as stabilized by Poincaré in 1926 ruled out devaluation. Deflation did not bring the hoped-for balanced budget, making the Treasury dependent upon the banks, and especially the Bank of France, then still a private institution. The actions of the British and Amer-

ican governments did not make things easier, while the very size of the Bank of France's gold reserves prevented the country from being driven off the gold standard when other countries were abandoning it and devaluing their currencies.

There were few convincing alternative policies forthcoming from left or right. The major parties paid lip-service to the balanced budget and the strong franc (the left at least until after the revolution). Successive governments of a conservative slant found that to carry out a deflationary policy needed interventionist measures backed by a strong state. The events of February, 1934 (the perhaps exaggerated fears of a fascist takeover) brought the ageing Doumergue to head a Government equipped with decree-laws. They also fired a demand for unity and action on the part of the working class which culminated in the formation of the Popular Front. Neither Doumergue's Government, nor that of Blum which followed, succeeded in finding a way out of the crisis. An impressive volume of decree-laws was passed but they did nothing to revive the economy or solve the state's financial problems. Hopes were raised never to be fulfilled. Blum's government fell in the spring of 1935 with the worst run of the franc since 1926 (franc did not only take place under left-wing governments). By this time Paul Reynaud and a number of other figures were calling for devaluation, but they found little public support. The wily Pierre Laval

made the final attempt to deflate the economy out of depression, but the new situation turned out to have no magic remedy either.

Industrial production may have continued to fall but the machine for turning out decree-laws worked overtime and "represented probably the most extensive intervention in economic life ever hitherto undertaken by a French peacetime government". Dr Jackson might have emphasized that this intervention bolstered the *dirigiste* argument and added to the rigidity of the economy.

By early 1936 the failure of deflation had become apparent to many erstwhile supporters. Meanwhile the programme of the Popular Front had taken shape. On pressure from the Communist Party (which did not want to scare off its Radical allies) it was timid and vague, based on the idea of raising mass purchasing power through public works and a shorter working week. It took no stand on devaluation (opposed by the Communists as well as the bankers), though it did call for the abrogation of the decree-laws. As Dr Jackson says, "In no sense was the programme a detailed blue print for government" and it fell well short of the Socialist Party's minimum programme. Various "plans" were being proposed aiming to set the economy on a new course, including one drawn up by the CGT (*Confédération Générale du Travail*, the main trade union centre, not at this time under Communist control). Their effect would have been to establish a "technocratic"

type of state capitalism. There was a conspicuous lack of public enthusiasm; a plan of this type was accepted with little opposition in 1946, the famous Muret Plan. Times had changed.

After doubling back to look at these plans, Dr Jackson provides a chapter on devaluation showing how, from the time when Reynaud's was almost a lone voice, it gained wider acceptance or was felt to be inevitable. When the left came to power in the elections of May 1936, Léon Blum, the new premier, was immediately faced with the mass sit-in strikes by workers who made little sense of his subtle distinction between the conquest and exercise of power. Blum found himself the *gerant laval* of capitalism in crisis, caught between the demands of high finance and those of the working class.

In the Matignon agreement, which provided the basis for settling the strikes, concessions were made which went beyond the Popular Front programme - 15 days' paid annual holiday, a 40-hour week, wage increases and the recognition of the trade unions' bargaining rights. The burden of these concessions fell not upon public expenditure but upon employers; hence their bitter opposition, especially to the 40-hour week. Strangely enough the foundations of the welfare state were laid not by the Popular Front but by right-wing governments, a product of the prosperous 1920s. As Jackson reminds us, "the civil expenditure of the first Popular Front Government declined by comparison with 1935 while its military expenditure increased". This underlines the fact that throughout these years Hitler's successful flaunting of the Treaty of Versailles was undermining France's strategic position, worsened by demographic trends and the failure of the economy to respond to deflationary medicine. Economic weakness may have had a greater share of responsibility for the defeat of 1940 than Dr Jackson suggests. In any case, devaluation when it came was too little and too late. The Government remained locked in a financial crisis now aggravated by the demands of rearmament, leading Blum to declare a "pause" in February 1937 and to resign in June. Dr Jackson's epitaph on the Popular Front is that "as an attempt to revive the economy it had proved a dismal failure". His detailed narrative ends in 1936, leaving the reader's appetite unsuaged; perhaps he will give us another volume later.

This book is a useful reminder of one attempt to overcome economic depression using the methods of economic liberalism. There is something *déjà vu* about today's "neo-liberals" in France, as elsewhere. They would perhaps do well to read this book.

Tom Kemp
Tom Kemp is reader in economic history at the University of Hull.



Paris, 1871: communards in their coffins; a picture from Hella Beloff's book *Camera Culture* (Blackwell, £14.95).

Market forces

Ethics, Efficiency and the Market
by Allen Buchanan
Clarendon Press, Oxford University Press, £15.00
ISBN 0 19 285333 7

What role ought the market to play in social organization? This is surely one of the most important questions in economic and political debate. *Ethics, efficiency and the market* is a guide to the arguments that can be presented for and against the market.

Allen Buchanan gives serious consideration to an unusually wide range of arguments - ranging both across disciplines and from end to end of the political spectrum. He reviews the contributions of economists, political theorists and philosophers confidently and fairly. That his own discipline is philosophy emerges mainly in his focus on the internal logic of arguments; when he finds that an argument relies on a claim about facts he is content to point this out and pass on, while an economist would probably be more inclined to look for evidence.

Buchanan begins with a careful non-technical account of the theoretical argument that establishes the efficiency of an ideal competitive market, and points out all the problems there are in applying this argument to the markets of the real world. Then he considers various moral arguments ranging from Nozick's libertarian defence of the market to Marx's attack on it. Buchanan's readiness to give a sympathetic ear to both liberal and Marxist views is quite unusual.

One major theme in the book is the difficulty of making efficiency comparisons between complete economic systems despite the confidence with which writers from Locke through Smith to Friedman have asserted the relative efficiency of market economies. One problem is that there is no uncontroversial way of defining a person's interests independently of his preferences, and a person's preferences are moulded by the economic system in which he lives. Another problem is that there seems no way of avoiding interpersonal comparisons, since any change from one economic system to another is bound to harm some interest group.

A second theme is the asymmetry between the well-developed theory of the ideal market and the virtual absence of a theory of an ideal socialist economy. A critique of the market is easy unless there is some alternative system to put in its place; and we need to know how this other system is going to work. Buchanan insists that we ought to take seriously the Marxist critique of the market but he is rightly sceptical of idealisation would end as soon as the means of production were placed under democratic workers' control. Democracy gives control to the majority, not to everyone, and majorities can exploit minorities.

Buchanan ends with a discussion of the two main theories of market socialism - the theory of ideal socialist planning developed by Lange and Taylor, and the theory of an economy of labour-managed firms. Here feasible alternatives to the capitalist market economy have been properly thought through but, as Buchanan makes clear, they represent major departures from Marxian socialism. Marx's critique of capitalism was in large part a critique of the market itself as an inherently irrational, inefficient and inhumane system; to incorporate markets - even without capitalism - into the blueprint for a socialist society is a real retreat. This takes us back to the original, unanswered question: how is Marx's socialist society supposed to work?

Buchanan writes clearly and incisively, with a welcome absence of jargon and technicalities and with a strong streak of robust common sense. It is a sign of the increasing convergence of economics, political theory and philosophy that it is possible for a genuinely interdisciplinary book of this kind to be written - one that can be recommended to students in all three disciplines.

John Oxborrow
John Oxborrow is senior lecturer in economic and social history at the University of Kent.

Robert Sugden
Robert Sugden is professor of economics at the University of East Anglia.

BOOKS

BIOLOGICAL SCIENCES

A dog's life

The Behavior of Domestic Animals
by Benjamin L. Hart
Freeman, £33.95
ISBN 0 7167 1595 3

The users of animals - the farmer, the horseman, the hunter, the zoo keeper - have always been of necessity, interested in the habits of the species with which they were involved. The knowledge they acquired is not often formally recorded but is more handed on by word of mouth. Brief written accounts are occasionally found in books on farming, field sports, animal training, horsemanship and clinical veterinary subjects, but the coverage is usually brief, sometimes superficial - often anecdotal yet still useful.

The scientific study of animal behaviour began around the turn of the century and started to become a full subject from the 1930s and 1940s onwards. It developed for a number of years along two somewhat separate tracks. The European ethologists were largely interested in instinctive behaviours in insects, fish, birds and occasionally mammals kept under natural (wild) or semi-natural (captive) conditions. The American comparative psychologists concentrated mainly on learning behaviour in rats, cats and pigeons kept under controlled laboratory conditions. During recent years, however, it has become increasingly obvious that both lines of approach have much to contribute and there is now a tendency for them to come together in the true science of animal behaviour.

Applied animal ethology - the close study of the behaviour of animals used as managed by man - has been a relative latecomer to the scientific behavioural scene. Although there had been a few early studies on domesticated animals - for example, peck orders in poultry, genetic influences on behaviour as shown in the dog, conditioning in sheep - most traditional (pure) ethologists and comparative psychologists rather thought of the domesticated species as tame and behaviourally barren creatures which were not really worthy of scientific investigation.

While in the late 1930s, the 1940s and early 1950s the old agriculturalist and veterinary surgeon had become involved with the behavioural components of such practical matters as grazing, reproduction, animal housing and disease, it was the growing public concern in the 1960s in Britain over the welfare of animals being kept within intensive husbandry systems which pushed the agricultural scientists and especially the veterinary profession into sudden contact with the wider concepts of behaviour. In the United States veterinarians have become interested in the diagnosis and treatment of behavioural problems in companion animals (dogs, cats and horses) and the animal scientists in both countries are nowadays becoming aware that an understanding of behaviour can contribute towards the development of new successful humane systems of animal keeping.

Whatever the history or motives behind the establishment of applied ethology, animal behaviour has now been incorporated into the curricula in most veterinary and many agricultural schools. In the teaching of the subject to undergraduates, however, a choice has usually to be made between either basing the course on zoologically oriented behavioural texts followed up by the use of some applied/domesticated species, right from the start. There are advantages and disadvantages in both these approaches. The zoologically inclined courses can better consider the theoretical background to behaviour - the concepts have been largely worked out on the non-domesticated and laboratory species - while the direct teaching approach involving farm and companion animals as the main (only) examples is probably seen as more relevant - that is, more attractive - by future

field-workers who are interested in using behavioural knowledge but not in becoming academic ethologists.

Benjamin Hart is a senior veterinarian on the staff of the veterinary school of the University of California and well known for his behavioural studies on dogs and cats. His book is very much a text for the "immediate involvement with domesticated animals" approach to teaching. Drawing on examples from a wide range of domesticated species - including, at times, laboratory rats and mice - to describe and explain behaviour, he is to be congratulated (considering his own main research interest) on not over-emphasizing dogs and cats; but he could be criticized for not using more domesticated poultry material.

Wisely, the book starts with an introduction covering man's domestication of animals followed by a sensible and well-argued case that behaviour can be approached from three separate (but related) positions: the ethological (based on studies of species-specific, innate behaviours of high survival rate); the experiential (based on learning theory); and the physiological (based on the underlying physiological and biochemical mechanisms). In effect, Hart is blending pure ethology, comparative psychology and physiology. This follows a tradition, for when applied ethology started in the 1960s the veterinary surgeons, agriculturalists and applied biologists who were involved tended not to adopt the concept of any one school of behaviour but to use ideas from all areas in an attempt to understand the behavioural problems which confronted them.

After the introduction, there are chapters on social, sexual, maternal and feeding behaviours, followed by further chapters on genetic influences, early experience, learning, hormonal influences and on the contribution of behavioural science to animal welfare. There is little on the practical problem involved in behavioural studies or on the advantages and disadvantages of the various observational and investigational strategies which can be used. Hart compensates for this absence of details of technique by the full and well-chosen lists of the references to the detailed behaviour used in obtaining the quoted data. There is also little coverage of motivational theory; this is a pity, as an appreciation of that theory is necessary for an understanding of the modern ideas about behavioural needs (or otherwise) of animals and of the role which frustration and anxiety may play in animal suffering. Again, although the integration of physiology and behaviour is well done - indeed, I was impressed by the clearness and relevance of the many examples - a little more on the behaviour related to pain would have been useful.

This book is an interesting, well-written and fully-documented account of the behaviour of the domesticated animals. It is delightfully illustrated, well produced and indexed. Although its price may put it out of the reach of undergraduates in agriculture, veterinary science and applied biology, it deserves to be widely read.

Roger Ewbank
Roger Ewbank is director of the Universities Federation for Animal Welfare, Potters Bar, Hertfordshire.



This 17th-century monochrome etching by Walter Charleton of the hoopoe (*Upupa epus*) was one of six representing the first attempt to accompany a text with pictures of the birds named, so that the reader could recognize the species, from Christine E. Jackson's *Bird Etchings: the illustrators and their books, 1655-1855* (Cornell University Press, \$60.50).

Tangled web

The Ecological Web: more on the distribution and abundance of animals
by H. G. Andrewartha and L. C. Birch
University of Chicago Press, £29.75
ISBN 0 226 02033 9

For the past 30 years, one controversy has been more pervasive in ecology than any other: the dispute between those who emphasize density-dependent factors and processes as determinants of population size (where the processes increase in intensity as density increases, thus tending to regulate population size within certain bounds) and those who emphasize density-independent processes, where intensity is unaffected by density and there are no regulatory tendencies.

Throughout this time, whenever the controversy was discussed, the chances were that H. G. Andrewartha and L. C. Birch would be taken as the champions of the density-independent cause. It is clear from the content of *The Ecological Web*, written as a sequel to their 1954 book *The Distribution and Abundance of Animals*, and from the authors' adversary style, that they are still engaged in the old war. But other ecologists would feel that sufficient progress has been made during the past 30 years for the focus of

the dispute to be changed and for new battle-lines to be drawn. But Andrewartha and Birch have largely ignored and often seem to have misunderstood this progress. Consequently, they have weakened their cause by neglecting many potential allies, who at least see a crucial and often a predominant role for density-independent factors, and see only a relatively minor role in many cases for competition, the most density-dependent of the density-dependent processes. Similarly, the authors have attacked not their true opponents, but straw men - seemingly grotesque caricatures of modern ecology who adhere to a version of "competition theory" (of Andrewartha and Birch's imagining) in which competition is the only determinant of population size.

Part one deals with Andrewartha and Birch's "theory of environment", the basis of which is that the environment can be depicted by an "environmental diagram" in which there is a "centrum" surrounded by a "web". The centrum, containing components acting directly on the organism, can be divided into four categories: resources; mates; predators; and "malintensities" which (like competitors, for example) are harmful to the organism but (unlike predators) do not themselves benefit when the organism is harmed. The web contains the branching pathways of influence through which other factors act indirectly on the organism via the components of the centrum. In part two, the authors construct their "general theory of population ecology" and

then compare it with existing theories. Finally, in part three (a full third of the book), the authors attempt to apply their general theory to a number of case-studies: the European rabbit in Australia, two Australian insects, two Australian birds, the spruce budworm in Canada, marine fish (very briefly), and man.

The general theory rests on three planks: the "theory of environment", the multipartite nature of populations, and P. J. den Boer's idea of subdivided populations "spreading the risk". The latter two together provide a means of explaining how spatial heterogeneity, in its own right, can contribute to population persistence and apparent stability without recourse to density dependence. But Andrewartha and Birch, without seeming to realize it, turn a contribution to stability into a cover-all explanation of stability. With stability thus explained away, the authors need turn only to variations in the environment to explain fluctuations in density.

The problems with the book stem from the authors' apparently fanatical dislike for what they imagine to be competition theory. This leads them to imply, without evidence, that because risk-spreading can contribute to population persistence, it is the paramount explanation for persistence. It also leads them to deny the importance, and often apparently the existence, of the established, density-dependent properties of many (though of course by no means all) of the interactions between organisms and the factors in their environment. Most ecologists in fact, despite disputes over emphasis, see interacting roles for heterogeneities, density-independence and density-dependence in an emerging (albeit far-off) synthetic understanding of population ecology.

This book is likely to have a rather limited audience. In its first sentence it defines ecology as "the study of the distribution and abundance of particular species of animals", thus inviting neglect by most plant ecologists. Nor is it an appropriate book for readers at the undergraduate level or below: it combines strident assertions of its own correctness with misrepresentations and misunderstandings of modern ecology, and could therefore be misleading to naive minds. However, for those who have a thorough grounding in what has been going on during the past 30 years, there is much of interest.

There is the authors' emphasis on the importance of basing population ecology on the physiology and behaviour of the individual; their emphasis on the importance of having a detailed knowledge of the whole environment; on heterogeneity at all levels; and indeed on the frequent frailty of scientific dogma. More specifically, practising ecologists will often have much to gain by trying to construct their own environmental diagrams for the species they are studying. In addition, certain details of the environment theory are helpful in their own right.

The book is uniformly written with an engaging directness and clarity. But it is as authors of a book published in 1954 that Andrewartha and Birch are most likely to be remembered.

Michael Begon
Michael Begon is lecturer in zoology at the University of Liverpool.

Who said what

Employment, Capital and Economic Policy: Great Britain 1918-1939
by Alan Booth and Melvyn Pack
Blackwell, £19.50
ISBN 0 631 13804 8

This book gives a resume of the views of various groups and individuals on the unemployment problem in inter-war Britain. There are chapters on the Labour Movement, the Liberals, Conservative planners, industrialists, the Trades Union Congress and the Webbs, Beveridge and Keynes.

Considered simply as a summary of these views, it is excellently written and very fully referenced. The chapter on the TUC is rather dull, but then the TUC itself was rather dull, being often nagged by internal divisions. The Confederation of British Industries and employers' organizations are roundly slated for what the authors see as their selfish and inconsistent attitudes. The Webbs' *Soviet Communism: a new civilisation?* is derided as the high point of uncritical adulation of Soviet planning. Harold Macmillan's *The Middle Way*, is rather surprisingly, judged to provide "a firm basis for a sound expansionary policy"; my own reaction on first reading it was rather that it was a proposal for a system not far removed from one of the less centralized East European economies. Nevertheless the authors bring together a great deal of interesting

material from a wide range of published sources, which will be valuable to scholars and students of the period.

The authors will not be at all flattered by these remarks, since their ambitions, set out in the introduction, go well beyond writing a summary of who said what in inter-war Britain. They also judge these proposals with respect of their effectiveness in dealing with unemployment. Their basic problem in firing these critical missiles is the instability of the intellectual platform from which they have to be launched. The authors say at the beginning that "the dominant perspective in British economic historiography" has been Keynesian; that is, most historians have written as if inter-war unemployment was an easily avoidable disaster created by the stupidity of politicians, civil servants and above all bankers. This happened despite the availability of alternatives proposed by those who had seen the expansionist light, even if in contrasting political tints, such as Keynes, Oswald Mosley and Ernest Bevin.

Booth and Pack contend that this view has been challenged by recent studies. This "valuable work" should, they say, revolutionize discussion of the inter-war possibilities, the footnote at this point rather immodestly referring the reader to an article by one of the authors. The trouble is that it has not revolutionized their own discussion in this book. The central point must be whether discretionary changes in fiscal and monetary policy, including at times substantial deficits, can be an effective weapon against unemployment in a fairly open market economy. There are many modern economists who hold that they are not. Booth and

Pack themselves state decisively on page one that "the weight of current opinion is that the Keynesian prelates are false". Then throughout the rest of the book their critical comments award merit marks consistently for expansionist proposals whereas anything that looks like monetarist orthodoxy is heavily marked down. It is true that another route to their favour is to propose abolishing the market system altogether and establishing socialist planning. But the majority who want to retain a market or mixed economy are judged on their commitment to a Keynesianism whose premises have been declared false at the start of the book.

Would a determined programme of deficit finance have reduced inter-war unemployment? The main constraints were "confidence" both at home and abroad, the balance of payments and above all the disarray of the international trade and payments systems at the hands of an indifferent and often intransigent USA. The favourable points were an unflattering climate of wage bargaining at home and falling commodity prices abroad. Economists are as unsure about the past as they are about the future. Many view the "natural" level of unemployment, which is hard to shift except by measures which may encounter strong and understandable resistance on social and moral grounds. There would perhaps be a consensus that the exchange rate was too high in the twenties and that, although it would have been quite difficult, there was everything to be said for stopping the fall in nominal but not domestic product (GDP) after 1929.

The point that is often underemphasized, in this book and in others, is the great strength of the recovery between 1932 and 1937. Employment grew in these years at 525,000 a year, equivalent to 625,000 a year in a labour force of today's size. Real GDP grew at 3.9 per cent a year and in 1937 was 14 per cent above the 1929 level. Industrial production grew at 7.8 per cent a year, and metal manufacture at 15 per cent a year to 44 per cent above 1929. The question about the middle 1930s is not "why did foolish politicians not pursue an expansionist policy?" but "could the economy possibly have been pushed any faster?" By 1937 unemployment was down to 7.8 per cent on whole labour force figures; not that far short of what might be regarded as a reasonable full employment level of say 5 per cent. Finally between 1937 and 1939, when the economy checked, there was at last an expansionary programme of public works: rearmament. And according to one recent study, not quoted here, it worked, up to a point. Unemployment was reduced significantly below what it would otherwise have been.

Something similar seems to have been happening on a far greater scale in Reagan's America recently. Perhaps some of the "Keynesian prelates" are not as flawed as they seemed and Booth and Pack's marking scheme, despite their own assertions to the contrary, is at least on the right lines.

John Oxborrow
John Oxborrow is senior lecturer in economic and social history at the University of Kent.

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Michael Fenner, Biology Department, University of Southampton

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July 1985 Pp. 0 412 25930 3 121pp £7.95

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Bryan F. J. Manly, Associate Professor in Statistics at the University of Otago, New Zealand

There is considerable controversy concerning the influence of natural selection on evolution. Consequently there have been many attempts to detect and measure the effects of natural selection. This book not only offers a summary of the methods of data analysis which are applicable to natural selection, but also attempts to provide an historical context.
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George Peterken, Chief Scientists' team, Nature Conservancy Council

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Richard Mabey, *New Scientist*

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David G. Rees, Senior Lecturer in Statistics, Oxford Polytechnic

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May 1985 Pp. 0 412 26440 4 240pp £6.95

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BOOKS

BIOLOGICAL SCIENCES

Feral pigs

Naturalized Mammals of the World
by Christopher Lever
Longman, £40.00
ISBN 0 582 46056 5

Sir Christopher Lever defines the term naturalization as the introduction of animals and plants to places where they are not indigenous, but in which they may flourish under the same conditions as those to which they are native. Thus, he is concerned generally with self-regenerating populations, unsupported by and independent of man.

This handsome book deals with over 60 species which have been naturalized in areas outside their natural distribution by the agency of man. Indeed, the ease with which many have adapted to their new areas is staggering, as is the range of species involved, from marsupials to primates. Each case is dealt with in prose pleasingly free of jargon, scientific or otherwise, with very small scale maps showing the species' normal distribution and the areas in which it has become naturalized. The histories of most cases are given, sometimes including accounts of populations that died out after several generations. Often, the author lists the food items of the species in their new areas and describes their habitats and potential predators.

Although the reasons for the early cases of naturalization can now only be matters of speculation, an extremely large number have occurred during the past two centuries. Some of these involve us in reading about the great voyages of discovery and the opening up of continents to western man, so that romance is often not far away. Here, the author gives a judicious amount of quotations from old log books, diaries and letters. Often, naturalization was affected to provide mariners with food supplies at distant places—usually islands. These generally involved farm animals but sometimes wild species such as the rabbit. Other species were imported for sport; others for aesthetic or sentimental reasons; some for economic reasons, such as the production of fur or to

combat some other naturalized species. Others are derived from animals that escaped or had been abandoned. A few are derived from specimens that were rejected out of curiosity to see whether they would survive in their new environment.

In general, the effect of these naturalized populations on the native fauna and flora of their new areas has been deleterious if not catastrophic. Rats, for example, have been responsible for the extermination of 16 species of birds and for the decimation of a further 40 or more. Australia and New Zealand feature prominently in these case histories, for under their relatively benign conditions most exotic species have flourished. In Australia, most farm animals with the exception of the sheep have established feral populations, often of large numbers—for example, 178,000–376,000 goats, 128,000–206,000 horses, and between eight and ten million feral pigs. Although minor industries have grown around these populations, their value is small in comparison to the damage that they inflict.

As the author states, many islands were used by sailors and whalers as reception areas for domesticated animals and on these the ecological results are (in general) even more devastating than in Australia and New Zealand; indeed, eradication may present many problems. Take, for example, the eradication of the feral dogs on the Galapagos Islands of Isabela and Santa Cruz: It would lead to an increase in the number of feral cats which prey on several indigenous species and to an increase in the number of feral cattle and goats, leading to more overgrazing than at present. Eradication of the cats would lead to an increase in the number of rats (also an exotic species). Only very occasionally, however, does the author see some overall advantage accruing from these naturalized populations: the future of the Hog deer (*Cervus porcus*), for example, is assured by the naturalized population in Australia.

Although the author can see no "purely scientific grounds" for the conservation of these populations, I think that he is wrong. It is not that I would wish to preserve them all or anything but an infinitesimal proportion of the populations; but some of them, like the Faroe Island house mouse (*Mus musculus domesticus*) and the Shetland house mouse are interesting case histories for the study of micro-evolution, and there must be other examples. We are told, for instance, that the Black Sika deer or kerama (*Cervus nippon kerama*) were introduced to the Ryukyu Islands, where they have developed into a particular island form.

There are, however, other points of

interest arising from these naturalized feral domesticated species and these largely concern their behavioural ecology. The few studies done on feral and semi-feral populations of domesticated species reveal facts about their social behaviour and ecology which are of importance in considering the welfare of their counterparts in intensive factory farming. While many of the feral populations are feared because they may act as reservoirs for infectious diseases, it is possible that some may act as reservoirs for beneficial genes of certain sorts. A number of stable populations descended from a single pair of animals also raises interesting questions—the crab-eating macaques of Angkor Island numbering about 500 are thought to be one such population.

This book may prove too heavy going to be read in one go by most naturalists, but as a reference source it is very valuable and most enjoyable.

D. G. M. Wood-Gush

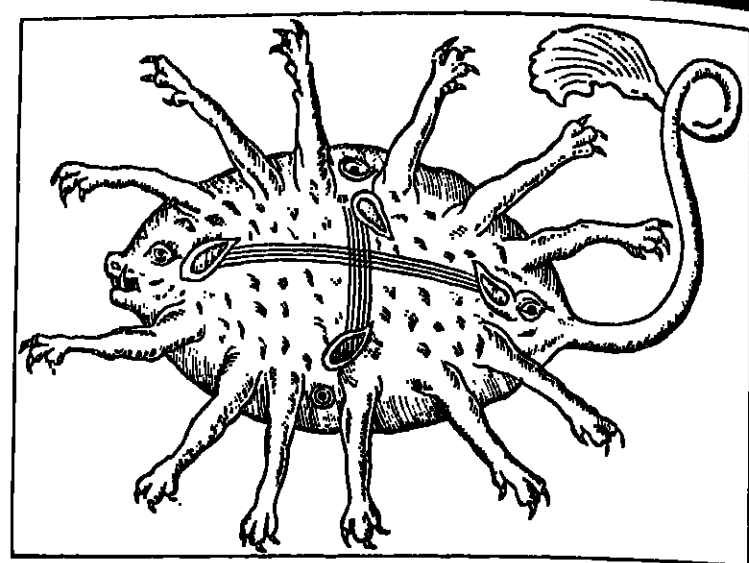
D. G. M. Wood-Gush is an honorary professor in the school of agriculture at the University of Edinburgh.

A sense of nature

An Introduction to Ethology
by P. J. B. Slater
Cambridge University Press,
£22.50 and £7.95
ISBN 0 521 30266 8 and 31605 7

During the 1930s, ethology emerged as the naturalistic study of animal behaviour. It earned its spurs as something of a soft science, dominated by a group of enthusiasts, the so-called ethologists. With time, the discipline has changed considerably, notably in the use made of quantitative techniques and an experimental approach. But it is within the past decade that the formal inclusion of population genetics into the theoretical structure of ethology has wrought a major conceptual revolution.

It is often hard for those outside the field to appreciate just how radical this shift of perspective has been. The fact is that it has changed the face of ethology to such a great extent that much of what was published more than a decade ago now seems outmoded and uninspired. Ethology will never be the same again. The inevitable casualties of such rapid advances in understanding are the textbooks. Overaken by circumstances, these age pre-



This drawing of an imaginary aquatic vertebrate, originally published in the 16th-century edition of the first major animal encyclopaedia compiled by Conrad Gesner, re-appears in *The Encyclopaedia of Underwater Life* edited by Keith Banister and Andrew Campbell (Allen & Unwin, £25.00).

maturely and soon become hopelessly out of date. Nowhere is this more evident than at the level of introductory texts, which at the best of times tend to be conservative and lag behind current thinking. Peter Slater's *Introduction to Ethology* is a useful attempt to provide a textbook, suitable for use in both school and elementary college courses in ethology, which includes material from both the old and new ethologies.

There have always been four quite distinct themes within ethology—questions about the causation of behaviour, about its development, its evolutionary function and its evolutionary history. Slater deals in equal depth with all of these, approaching each through the early work of classical ethologists like Konrad Lorenz and Niko Tinbergen as well as more recent studies. The new flowering of functional studies, commonly known as sociobiology, also receives its fair share of attention. Sociobiology is the source of bitter controversy, especially between ethologists and social scientists, and Slater adopts a very balanced approach—exposing the misconceptions of the critics and criticizing the occasional excesses of a few overzealous sociobiologists.

It is a regrettable fact that introductory textbooks at this level seldom possess a sense of history, usually preferring to cram as many current ideas as possible into the limited space available and invariably creating an air of finality—that we now know all there

is to know about the subject and that there is little more to do than fill in a few inconsequential gaps. Adopting a less dense approach, Slater prefers to concentrate on a few seminal studies that exemplify the nature of ethology and the way it has changed conceptually during the past 50 years, thus providing just that sense of history necessary to paint a picture of a living science. It is an approach that helps the reader identify the pitfalls to which earlier theorists have succumbed, while at the same time providing a firm foundation from which to view the achievements of today.

Written in a style light enough to appeal to sixth-formers and laymen with little background in ethology, this is just the sort of book that leaves the reader intrigued and fascinated by its subject-matter and itching to open more advanced texts. There can surely be no higher praise for an introductory textbook.

Robin Dunbar

Robin Dunbar is a university research fellow in the department of zoology at the University of Liverpool.

A collection of essays on *Evolution in Honour of John Maynard Smith* has been edited by P. J. Greenwood, P. H. Harvey and M. Slatkin and published by Cambridge University Press at £30.00. Contributors include R. C. Lewontin, R. M. May, E. L. Chernov, and the editors.

BOOKS

BIOLOGICAL SCIENCES

Plant potential

Principles of Plant Biotechnology: an introduction to genetic engineering in plants
by S. H. Mantell, J. A. Matthews and R. A. McKee
Blackwell Scientific, £10.80
ISBN 0 632 01215 3

The current inability of plant molecular biologists to contribute in a significant way to agriculture is not due to any conflict with basic scientific laws; in principle, it should be possible to produce plants with any combination of desirable properties by manipulating directly their genetic material. Rather it stems from a vast dearth of knowledge as to how plants work at the molecular level and the associated paucity of people skilled in the techniques necessary to discover and apply that knowledge.

Although during the past decade the number of plant molecular biologists in America and Europe, the promised agricultural fruits of their efforts still lie in the future. Indeed, it has become clear that much basic research remains to be done before the genetic material of crop plants can be engineered to human advantage. The value of new books in this area can thus be judged in terms of their ability to ease the interest of bright young people with the necessary training in molecular genetics to turn their attention to plants. This book is aimed at no groups of undergraduate biologists—those with little knowledge of plant molecular biology and those with the knowledge of plant tissue culture. Although this two-pronged approach

yes problems in presentation, it is a big aim because people from both backgrounds must interact if their research is to contribute to agriculture. After an opening chapter summariz-

ing the main findings of plant molecular biology, the authors describe in some detail the techniques being used to clone plant genes and discuss the various vector systems available for introducing genes into plant cells. All three chapters are well written and are illustrated with many helpful diagrams and tables. Of particular value is the emphasis on the limitations of the current techniques. As the authors admit, "from a biotechnological viewpoint, it must be stated that, although ideas abound, no cloned plant genes have yet found any direct applications in the improvement of crops or commercial production of plant products".

The next chapter, an excellent introduction to the many types of plant tissue-culture technique that have been developed, is followed by another on the rapid clonal propagation of crop plants in which the authors emphasize the enormous increase in the rate of plant propagation now being achieved by these methods. The chapter on crop breeding, however, is poorly named, as it concentrates on the most recent *in vitro* techniques rather than on the conventional methods which have been so successful at increasing agricultural productivity. The concluding chapter on industrial plant products is the least satisfactory: it is badly written and the discussion of recombinant DNA technology is not of the same standard as that presented earlier in the book.

The eight appendices containing detailed information about the composition of tissue culture media and explanations of the structure of nucleic acids could have been omitted, as this sort of information is either too specialized (composition of media) or readily available elsewhere (structure of DNA). Of much more value is the excellent bibliography which contains over 500 references, including some papers published in 1983.

The blend of chapters on the molecular biology and the tissue culture of plants makes this book suitable for undergraduates reading either biochemistry or botany. I can recommend it highly to all those interested in realizing the potential that modern plant science offers for the improvement of agriculture.

John Ellis

John Ellis is professor of biological sciences at the University of Warwick.

Shore lines

An Introduction to Coastal Ecology
by Patrick J. S. Bouden and Raymond Seed
Blackie, £19.95 and £9.95
ISBN 0 216 91795 6 and 91796 4

To most people, "the coast" is probably synonymous with the intertidal beach and its immediate landwards fringe. Yet in contrast to the open ocean the sea over the continental shelf has distinctly coastal features. Indeed, such coastal seas may extend hundreds of kilometres from the shoreline. Moreover, in the opposite direction several essentially terrestrial habitats also bear clear signs of their proximity to the sea, not least in that some of them have been formed from material once on the sea bed—for example, sand dunes and shingle masses.

Further, the effect of the sea is carried inland through rivers: many rivers are tidal, if not estuarine, for tens or hundreds of kilometres upstream from their notional mouths. On the other hand, some of the world's largest rivers (for example, the Zaire) discharge so much water that much of the receiving ocean is rendered effectively fresh water. The interface between land and ocean can therefore encompass a very broad zone indeed, thousands of times wider than the intertidal zone itself.

The authors of this book set out to provide undergraduates with an introduction to the ecology of this whole region, hoping to present an integrated account of the whole coastal zone including the terrestrial part—is man's major habitat? Indeed, nearly three-quarters of the human population now live—or soon will live—in the coastal zone. However, although all the component habitat types of the coastal zone have been included, even if only briefly, the book is heavily biased

towards the more traditional intertidal and immediately subtidal systems, to which half of its pages are devoted. The terrestrial environments (dunes, deserts, shingle, grasslands and heathlands, woods, cliffs, swamps, and ice-edge) receive only just over five per cent of the total space. The authors do emphasize, however, the role of man as predator, polluter and potential manager, discussing this specifically in almost one-quarter of the book.

Such biases probably reflect the difficulty of producing an undergraduate text which departs radically from the form of standard courses in a subject, however desirable it might be to change the mould. An additional problem for the authors is that habitats as diverse as sand dunes and the water mass over the continental shelf have little in common biologically, except in terms of the fundamental ecological processes common to all environments. However, as Bouden and Seed have deliberately rejected a "process approach", most of the individual chapters treat a single habitat type or group of organisms. Although this militates against any integrated account of coastal ecology, the authors have succeeded to a considerable degree in imparting something of the "flavour" of the coast as a whole.

The writing is clear and concise; the illustrations are effective; and the text is full of information, neatly summarized and relatively free from error. My only general criticism is that in their choice of example and of illustrative material the authors have often trodden well-worn paths, so that in places the text does seem a somewhat derivative compilation from other existing books intended for more or less the same readership. On balance, however, the book should serve as a good introduction to coastal ecology for first-year undergraduates.

R. S. K. Barnes

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Mongoses at play, from Anne Rasa's *Mongoose Watch: a family observed* (John Murray, £10.95).

Otter decline

The Natural History of Otters
by Paul Channin
Croom Helm, £12.95 and £7.95
ISBN 0 7099 3401 7 and 3460 2

Although during the past three decades the European otter has declined sharply in range and numbers, this decrease went largely unnoticed by naturalists until the early 1970s. Field surveys have since revealed that the otter is now absent from most of England and much of Western Europe, the present strongholds for the species seem to be mainly in Scotland, Ireland, Norway and parts of the Mediterranean basin, where agricultural output is low. Research during the past ten years has indicated that pollution, coupled with the drainage of wetlands and destruction of riverside habitat, has been largely responsible for the otter's misfortune. Most other species of otter have shown similar

declines and some are now classed as endangered. Overfishing is an additional negative factor in many parts of the world.

C. J. Harris's *Otters: a study of the recent Lurinae* (Weidenfeld & Nicholson, 1968) is the standard work on the group, but was written before any systematic field-studies had been made. Philip Wayne's *Private Life of the Otter* (Batsford, 1979) provided a short, balanced, popular account of otter biology. Despite the publication of several other books, most contain too many inaccuracies and unsubstantiated assertions to be recommended, so a good account of otter biology is therefore urgently required. Paul Channin's book is the first in a series sponsored by the Mammal Society, under the general editorship of its President, Dr Ernest Neal.

After a brief introductory chapter, Channin describes the basic features of otters. Here, the author has chosen to follow J. A. Davis's recent classification which reduces the number of otters to nine species. All of the American river otters, frequently divided into seven species, are lumped together, while the hairy-nosed otter of Asia is combined with the Eurasian

otter—although no explanation is given as to how these two forms could yet remain distinct in south-east Asia. The distribution maps are generalized and do not take account of recent information—for example, from South America. And nowhere does Channin mention that the North American otter is now absent from much of the interior of the continent.

Chapters three and four deal with diet and feeding behaviour and with relations with other species, especially the effects on fish populations and the possible competitive relationship with mink. The discussion is detailed and informative, the author concluding that river otters are neutral in their effects on fisheries. Chapters five and six lucidly discuss the social organization and life history of otters. Whether otters are territorial or not, a matter of some recent debate, is well explained: clearly, different populations may have differing levels of territoriality. There is still a dearth of information, however, on basic otter biology—for instance, on births, deaths and longevity—of vital importance to the conservationist.

The final chapter, on otters and man, is less satisfactory. The section on trapping for pelts omits much recent information, especially from North America. Otter hunting in Britain and the role of hunt dogs in pinpointing the population decline is well described. But although the insecticide dieldrin is considered the main culprit, no mention is made of industrially derived polychlorinated biphenyls, which have been implicated convincingly in the Swedish decline. And habitat destruction and protection, though considered important, is dealt with too briefly. Again, although the recent, small-scale release of captive-bred otters into East Anglia is described, no mention is made of the ambitious translocation and re-introduction programmes for sea and river otters in North America.

Overall, this well-written and well-produced book provides an excellent introduction to otters.

C. F. Mason

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BOOKS

BIOLOGICAL SCIENCES

Creative ferment

Penicillin: meeting the challenge
by Gladys L. Hobby
Yale University Press, £30.00
ISBN 0 300 03225 0

The discovery of penicillin by Alexander Fleming in 1929 and the subsequent isolation and demonstration of its therapeutic potential by Howard Florey and colleagues in the early 1940s must rank as one of the most significant discoveries of mankind. As this new book shows, it took place at a time when the idea that chemical agents could cure infectious diseases was finally becoming acceptable.

In the early 1930s, in spite of the development by Paul Ehrlich of the effective anti-syphilitic agent salvarsan, neither the possibility of chemotherapy nor even the extent and significance of the huge menagerie of the microbes existed in the then current medical dogma. As always, the idea precedes the act; and significantly the first inklings of what was to come resulted from a programme of research at the I. G. Farbenindustrie, essentially following Ehrlich's footsteps, which in 1933 resulted in Gerhard Domagk's discovery of prontosil, the first of the sulphonamide antibiotics. Thus, by the beginning of the war in Europe, the time was ripe for the greatest advance to take place; and this occurred in the Dunn School of Pathology at Oxford when Florey, Ernst Chain and others followed up Fleming's original observations.

The efforts of the Oxford group, however, could not produce the quantities of penicillin required for other than a few but crucial experimental observations. So Florey, who as time passes is more clearly seen to be the mastermind behind this revolution,

went to the United States to seek help for the development of large-scale production. There, he met an old colleague from Magdalen College, John Fildes, then professor of the history of medicine at Yale, and went on to see Dr Charles Thom, an expert on the penicillia species, who had either correctly identified Fleming's contaminant as a strain of *Penicillium notatum* or, through Thom, Florey and his colleague Norman Heatley were introduced to Percy Wells, director of the Northern Regional Research Laboratory (United States Department of Agriculture), who then arranged for them to visit Dr Robert Coghill, Chief of Fermentation at the NRRL in Peoria, Illinois. The results of that meeting were momentous, essentially opening the door to final success in large-scale penicillin production. There in Peoria the use of the corn steep liquor medium, the submerged culture, Heatley's quantitative assay, and finally the first efforts at strain selection beginning with an isolate of a mouldy melon from a market in Peoria, combined to provide the basis of all subsequent large-scale production.

Dr Heatley documents the course of these American efforts which were based initially on four interested pharmaceutical companies: Merck, Squibb, Pfizer and Lederle. After some initial hesitation, commitments were made, and Pfizer in particular, with just experience in fermentation, built and ran a penicillin plant. Some idea of the changes that had occurred since Florey's visit in 1941, when penicillin at Oxford was measured in hundreds of units, is not evident from the total American production by 1945 of 1,600 billion units; the price at that time was down to \$2.20 per 100,000 units. Interestingly, the initial hesitation was in part due to the fear that penicillin would be rapidly synthesized by chemists and so bypass the need for fermentation. Even now in the 1980s this is not possible on a commercial basis and is to some extent an indication of the synthetic prowess of the microbes.

The author, Dr Hobby, was working with Martin Dawson and Karl Meyer at Columbia in New York in 1941 when Dawson read the first report from Oxford and decided to isolate and test penicillin. They obtained strains from Roger Reid who had worked on Flem-

ing's mould in the United States during the 1930s; and they then successfully grew and isolated crude penicillin and demonstrated its immense therapeutic potential. Thus, this story is one from a scientist involved virtually from the beginning; and that vantage point, coupled with a scientific concern for accuracy and documentation, makes this book the most authoritative account of these great events that I have read. Although it is heavily referenced, the story is told with a clarity that makes reading enjoyable. Many aspects of the tale appear here for the first time; in fact, the account of the efforts of British pharmaceutical companies to produce penicillin are of particular interest and show the conversion of Glaxo, for example, into a major pharmaceutical company as a result of its successful efforts to ferment penicillin following the American technique.



The first penicillin plant installed at Beecham Laboratories, Worthing.

Membrane functions

The Physical Chemistry of Membranes: an introduction to the structure and dynamics of biological membranes
by Brian L. Silver
Solomon Press, Allen & Unwin, £45.00
ISBN 0 04 574028 3

Membrane enthusiasts such as myself who constantly struggle to bring their physical chemistry to a level at which they can begin to understand and to assess the latest refinements of approach and analysis in membrane studies will welcome this refreshingly unbiased but critical review by an author whose sole reference to himself is to his previous book on *Irreducible Tensor Methods*. The author's concern is to provide "an account of what physical chemistry has to say about structural, electrical and transport properties of biological membranes and their simplest model - the lipid bilayer", and

this he accomplishes in a relaxed and sometimes humorous style which makes the reading between the equations informative and enjoyable.

The equations are inevitable: physical chemistry seeks to identify the fundamental physical parameters which determine spatial distributions and interactions between atoms and molecules and to derive expressions which quantify their contributions to experimentally measurable characteristics of chemically-defined systems. Although I cannot vouch for the accuracy of the derivations or the efficacy of the equations, I greatly appreciated the clear analysis of the arguments and of the implications for membrane structure and functions.

Inevitably, expressions are developed initially for the simplest molecular system - in this case, the lipid bilayer - and manipulated with an uneasy feeling of compromise as the discussion progresses towards real biological membranes. Thus, even appropriate agreement between calculated and measured parameters is a positive achievement which at least indicates that our thinking is along the right lines. Although, given the complexities of real biological membranes,

most of us may never advance beyond this point, we can at least be encouraged to progress further in thought and experiment in the hope of achieving a more fundamental understanding of membrane functions.

Treatment of the solid-state structure of lipids is brief but clear and well illustrated (with some unexpected but self-evident labelling errors). Water is then added and a variety of gross physical forms (micelles, vesicles and bilayers) identified and spatial and motional characteristics described. So far, there is little uncertainty and no controversy, but when we come to defining order and disorder in such systems, the problems of timescales and heterogeneities begin to emerge. Although this is not too great a problem in the simple lipid bilayer, it becomes increasingly troublesome in the chemically more complex systems. Here too, the limitations of individual experimental techniques become apparent, making it necessary for the author to emphasize the implications from a variety of techniques in arriving at an overall picture.

Under the chapter headings "thermodynamics" and "forces" the galaxy of forces responsible for the physical characteristics of lipid and membrane systems are assessed quantitatively. Thus, we find ourselves back again, unexpectedly, to a more critical look at the dynamic behaviour of lipid chains in bilayers before contaminating the system with proteins, glycoproteins and cholesterol. Here, we are treated to thoughtful analyses of the arguments concerning immobilized lipid - whether bound, trapped or simply impeded in passing by protein - and also of the consequences of introducing cholesterol into layers of phospholipid. Finally, the author looks at the basic molecular mechanisms responsible for the lateral diffusion of lipids and for the rotation and translation of proteins in membranes, before embarking on considerations of ion distribution and transport across membranes.

Other chapters - on irreversible thermodynamics; water transport; fluctuations, channels and lipids; and physical chemistry and the cell membrane - indicate that the author is still thinking along the right lines in believing that fundamental physical chemistry has a lot of useful things to say about biological membranes and their chemical functions.

Teachers of undergraduate courses in chemistry, biochemistry and biophysics in Britain will find in this book much useful material for some final-year options of a biophysical nature. Its greatest impact, however, will be on postgraduate courses taking a deeper look at membrane phenomena.

J. B. Finean

J. B. Finean is reader in biochemistry at the University of Birmingham.

Coping with flight

Physiological Strategies in Avian Flight
by J. G. Phillips, P. J. Butler and P. J. Sharp
Blackie, £19.95 and £9.95
ISBN 0 216 91780 8 and 91784 0

According to its authors, this book is intended as a text for undergraduates and postgraduates on the one hand, and on the other, to be sufficiently readable to give an insight into the functional aspects of bird physiology to the informed amateur ornithologist. It will certainly provide such a person with an entry into literature with which he is almost certain to be unfamiliar, and for very few of the papers and articles quoted in the references list appeared in ornithological journals, despite the respectable number of physiological papers published in such journals during the past decade.

The book does not set out, however, to cover all aspects of the physiology of birds, as may be judged from its contents: chapters on locomotion, migration and orientation, thermoregulation, osmoregulation, the reproductive system, and environmental control of reproduction. Even the final

chapter, on applied aspects, covers a restricted set of topics: domestication, intensive farming, and pollution (chiefly by oil).

The choice of chapters and topics within chapters seems to have been dictated primarily by the particular interests of the three authors, and these they cover thoroughly and effectively. Although authorship is not credited separately in each chapter, it seems probable that Phillips wrote the account of osmoregulation (salt and water balance), for about one half is devoted to an authoritative account of the avian salt gland, which marine birds, in particular, use as an important route for excretion of concentrated salt solutions. Presumably Butler wrote the chapters on locomotion and thermoregulation, as they contain a strong and convincing emphasis on respiratory adaptations involved in coping with the energetic demands and consequences of flight, swimming and diving. It also seems probable that Sharp wrote the chapters on reproduction, as their treatment of the endocrine control of reproductive state and ovulation in poultry is excellent - clear and concise.

Outside these areas, I found the writing less convincing. The chapter on migration and orientation, for example, seems to have been based largely on papers published from a symposium of the Society of Experimental Biology, held in 1979. Here, however, the topics are not explored in much depth, so that undergraduates and ornithologists should go elsewhere for more control of reproduction. Even the final

applied aspects, the authors have had to expand the term "physiology" to include genetics, ecology and behaviour as well as more traditional aspects (including endocrinology), in their treatment of poultry farming and the effects of pollution on birds. In such a brief treatment, the justification for spending money on research (much of it in the United States) into the physiological effects of oil pollution, rather than on preventing pollution in the first place, will not convince environmentalists. Yet studies of animals which have to cope with pollutant stresses usually increase considerably our understanding of the homeostatic mechanisms at work in unstressed animals.

Although this book provides some excellent accounts of certain aspects of avian physiology, and can be recommended for undergraduates seeking information in these areas, I would question the value of divorcing information on the methods by which birds cope with flight, thermoregulation, diving, salt and water balance, seasonal reproduction, and so on, from the methods by which other groups of vertebrates address the same environmental problems. No doubt this was done so that the book could complement another in the same series: *Avian Ecology* by C. M. Perrins and T. R. Birkhead.

Peter Evans

Peter Evans is reader in zoology at the University of Durham.

BOOKS

BIOLOGICAL SCIENCES

On the whole

Evolutionary Theory: the unfinished synthesis
by Robert G. B. Reid
Croom Helm, £25.00
ISBN 0 7099 2282 5

The history of biology is a history of warring isms. Two have been particularly pervasive: reductionism, asserting that living things are nothing more than the sum of their chemical and physical parts; and holism, asserting that they are more than this. Associated with these two isms are two more: with reductionism, mechanism - literally the machine-view of life; and with holism, vitalism - the view that "something more" is a rather special, even scientifically intractable, "something". From the Greeks onwards biologists have associated themselves with one or other of these camps and sometimes even with several camps at once.

Moreover, these approaches to the ways organisms are structured and function have intertwined with theories on the way that living things evolve. For example, if organisms can be understood as nothing more than the sum of their parts, then it is reasonable to assume that they have evolved by the progressive accumulation of small, gene-linked changes - the classical neo-Darwinian position. Whereas if biological wholes have properties distinct from their parts, then evolutionary jumps leading to the emergence of unexpected properties become reasonable - and this is compatible with evolution by fits and starts, the so-called "punctuated equilibrium" position.

These are the threads that Reid picks up in this book, weaving them through 17 chapters in an often scholarly but sometimes over-embellished and hence occasionally obscured appraisal of evolutionary theory. This approach is historical, though not systematically so, and what he ends up with is a kind of alternative history that, after surveying the evolution of evolution and selectionism in the first few chapters, gives detailed accounts of alternatives based on Byssm, vitalism and emergentism. By emphasizing these isms and by taking the history of ideas about how organisms function and develop as seriously as the history of ideas about how they evolve, he has produced a novel work that is distinct from, but complementary to, the many other histories and philosophies of evolution that have appeared during the past few years.

Germ of an idea

Seed Ecology
by Michael Fenner
Chapman & Hall, £7.95
ISBN 0 412 25930 3

A very simple idea - that vegetation is composed of plant populations and that populations are composed of individuals - has recently caused the study of plant ecology to turn in a new and exciting direction and is now the basis for much research in plant population biology. Indeed, such an emphasis on the role of individual plants, their birth rates and death rates means that both ecological and evolutionary questions can be dealt with at one stroke.

Because so many plants multiply vegetatively and form groups of stems where interconnections cannot be detected without excavating roots, plant ecologists often begin by studying the practical problem of identifying individuals. As seeds are unequivocally individual plants, they represent an ideal unit of study for the plant ecologist interested in population biology. Michael Fenner's book deals with



Caracal, from Nicholas Luard's *The Wildlife Parks of Africa* (Michael Joseph, £14.95).

This book, however, is not just a history, but an exercise in advocacy. Reid thinks that we have concentrated too much on reductionism and wants to persuade us that holism has again to be taken more seriously. At its least contentious, the message is that traits and the genes coding for them are selected within the context of the whole, functional, and homeostatic organism - its ontogeny, physiology and behaviour. But this "internal selection" can only have evolutionary consequences in so far as it influences the transmission of genes, so that for me it does not seem to be radically different from conventional selection. Yet "internal selection" does tend towards constraint, constancy and homeostasis, whereas evolutionary change, so that, as Reid reminds us, there is a possible paradox here that invites more serious attention.

But are there even more profound issues at stake with holism? There is surely a sense in which surprises have turned up at the origin of life and in its subsequent evolution - the genetic blueprint, cellular organizations, nervous systems, language and culture, and so on. If, for example, we had been present as observers before the origin of life (admittedly a philosophical and outrageous proposition) then it is unlikely that we could have predicted

exactly how the prebiotic soup would turn out. But my materialistic prejudices make me reluctant to accept that a Laplacean Spirit would have had the same problems and I would want to insist that it will always be possible for scientists to work back from the properties of systems once "emerged" to a reductionist explanation of them. Otherwise, we would have a world of gaps and possibly of mysterious "somethings" filling them; and holism would again become allied with vitalism.

Reid's book challenges us with these questions and reminds us that no scientific synthesis should ever be considered finished, for the salutary lesson of history is that scientific theories have ultimately turned out either to be completely wrong or not to be completely right. This message, together with the one that reductionist programmes in biology should minimally be carried out with an awareness of whole organisms, will make this book interesting reading both for the philosophically inclined and also for working biologists.

Peter Calow

Professor Calow is head of the department of zoology at the University of Sheffield.

Like begets like

The Biology of Cell Reproduction
by Renato Baserga
Harvard University Press, £19.95
ISBN 0 674 07406 8

It is one of the more exhilarating and confusing aspects of living things that it is difficult to achieve satisfactory generalizations concerning them. Thus, although it is a matter of common observation that many living objects like the human body grow, it is more difficult to make a statement concerning the mechanisms of the enlargement involved which can be applied with rigour to all other life forms. Perhaps the common thread is that all living things change with the passage of time and that continuity is maintained by replication, which is so arranged as to preserve the original state. As such an arid statement seems a long way from human babies, some explanation is in order.

Simple entities like viruses, which have no existence other than within other organisms, maintain their continuity using the specificity of their genetic coding sequences contained in their nucleic acids. Within these sequences is preserved sufficient information to provide instruction to the host organism to ensure the exact reproduction of the original viral particle. In this way, as predicted by Lucretius well before the exact recognition of viruses, like begets like. It is also important to note that the informational deposits which are the viruses are packaged in discrete, highly organized units.

Bacteria contain a greater amount of genetic material than do viruses but the processes by which a bacterial particle normally divides into two are so arranged as to ensure transmission, to the two daughters, of the same genetic coding sequences that were present in the original. It is customary to refer to individual bacterial particles as cells. Such word usage is compatible with the terse statement in the *Concise Oxford English Dictionary* that a cell is a "portion of protoplasm usually enclosed in membrane". Quite apart from the difficulty of immediately knowing what membranes and protoplasm are, what is missing from this definition is some indication that cells are the units in which many biologists think about the organisms they study.

Thus, the human body consists of some 50 million million cells and so does a 70-kilogram oak tree. Also, in human and oak tree alike, the achievement of that astronomical number of unit cells has depended on a capacity for cell replication similar in many ways to that adopted by viruses and bacteria. The cells of man and oak tree are more complex than those of bacteria in that the genetic material is greater in amount and is arranged within a nucleus inside each cell in a series of

complex units called chromosomes. There are also many microscopic organisms which have a nucleus with their cells; the cells, however, are not aggregated but live free. *Amoeba proteus* exemplifies such simple organisms which again when they divide have elaborate mechanisms for the maintenance of genetic continuity similar in principle to those possessed on the one hand by bacteria and on the other by multicellular organisms.

In multicellular animals and more particularly in the vertebrates, the various processes of cell division are concerned with increase in size during the period of life when the organism as a whole is growing and also with replacement of worn-out or damaged cells. Under normal circumstances, the processes of growth and replacement are orderly: like cells will be produced from like cells in such a manner as to maintain a status quo. But as one kind of deviation results in the development of neoplastic tumours, it is largely in order to understand what has happened that so much emphasis has been placed in recent years on the study of cell division.

Renato Baserga, starting well along the line of this story, concerns himself almost exclusively with mammalian cells; and to a great extent the experiments of which he writes have been enacted in tissue culture. Although he argues in his introduction that he will discuss how cells divide, most of his text is concerned with the various techniques of describing cells in division. Indeed, as he does not even refer, let alone detail, many of the intricacies of cell division, in my view his book is incorrectly titled. Biology is an all-embracing term concerned with morphology, physiology, anatomy, behaviour, origins and so on. Baserga's text is much more selective, aiming to provide "molecular biologists with basic information on the reproduction of animal cells and introduce cell biologists and clinicians to oncogenes and the molecular biology of the cell cycle".

Having said this, however, the book does describe many of the ways in which cell division is thought to be controlled. As Baserga has worked in the field for many years, the serious student will undoubtedly learn much from the distilled wisdom of his book. Indeed, it is a tribute to him that he is able to accommodate the contemporary mode of molecular biology: if it moves, clone it. However, as the field is moving rapidly, he may soon wish to revise his text to bring it up to date on the increasing number of peptide growth factors. Despite its restrictions, however, this is a fascinating book.

A. J. S. Davies

A. J. S. Davies is deputy director of the Institute of Cancer Research and chairman of the biology and surgery section at Chatter Beatty Laboratories, London.

A second edition of Peter W. Price's *Insect Ecology* has been published by Wiley at £38.40.

ject of optimal germination strategies is perhaps understandable, but if it cannot be dealt with in a book called *Seed Ecology*, where are students to learn about it?

Germination and seedling establishment (chapters six and seven) mark the end of a seed's life in the soil, and very often the end of the individual's life altogether - for, apart from the period before seed dispersal, this is the most hazardous time in a plant's life. As the micro-environment into which a seed emerges is crucial to the survival of the seedling, many buried seeds possess mechanisms which allow them to detect the presence of a gap in the vegetation overhead. Seedlings often live or die, depending on the presence and size of such gaps.

This is a well-written book that is remarkably up to date on most of the topics the author has chosen to discuss. Although I would have preferred him to have discussed the theory and data bearing on evolutionary aspects of the subject more explicitly and to have made much less use of the vague phrase "presumably the result of natural selection", this would have required another book.

Jonathan Silvertown

Jonathan Silvertown is lecturer in biology at the Open University, at present on leave at Cornell University, Ithaca, New York.

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Additional expertise or interest in one or more of the following areas would be an advantage:

Data Communication; Management Principles and Practice; Decision Support Systems and Operational Research; Operating Systems and Architecture Office Automation.

The School has a very strong research record and offers opportunities for consultancy.

Salary range L1/SL; £8,804-£15,441 including London allowance.

Further details and application form from Personnel Office, Kingston Polytechnic, Penryn Road, Kingston upon Thames, Surrey KT1 2EE. Tel: 01-548 1365, Ext. 207. Closing date 6th December 1985.

(70714)

KINGSTON
POLYTECHNIC

School of Computing

LECTURER II/
SENIOR LECTURER

Applicants for the post of Lecturer II/Senior Lecturer should be well qualified in computer science or a closely related subject, to at least HNC level, and should have teaching and/or industrial experience.

Candidates will also be required to provide evidence of research/consultancy activities or the potential to develop these.

Salary range £28,804-£15,441 including London allowance.

Application forms and further details from Personnel Office, Kingston Polytechnic, Penryn Road, Kingston upon Thames KT1 2EE.

Tel: 01-548 1366 ext 205. Closing date 9th December 1985.

(74926)

Trent Polytechnic
Department of Accounting
and Finance

LECTURER
GRADE II/
SENIOR LECTURER
IN ACCOUNTING
AND FINANCE

(£7,936 - £14,763 per annum)

To teach in at least two of the areas of financial accounting, financial management and management accounting, primarily to advanced level professional and degree students.

Reference would be given to candidates who can demonstrate experience in the use of information technology in these areas. Candidates should have appropriate academic and professional qualifications. Please quote ref. 85059.

Centre for Extension Studies

LECTURER
GRADE II/
SENIOR LECTURER
IN INDUSTRIAL
STUDIES

(£7,926 - £14,763 per annum)

Applicants are invited for the above post which relates principally to engineering and science courses. Candidates who should possess an appropriate engineering/science qualification and should have industrial experience and expertise in the broad area of industrial studies. Please quote post ref. 85076.

Further details and form of application may be obtained from the Personnel Office, Kingston Polytechnic, Penryn Road, Kingston upon Thames KT1 2EE. Tel: 01-548 1366 ext 205. Closing date 9th December 1985.

Ref: 85076

The Polytechnic of Wales

Bristol Polytechnic
Department of Construction &
Environmental HealthTEMPORARY
LECTURER II/
SENIOR LECTURER
IN BUILDING
ECONOMICS/
COST CONTROL

Candidates should be graduates and have appropriate professional qualifications and experience in the Construction Industry or the related professions. A particular interest in the economics of the construction process and the construction of technical decisions would be advantageous. The successful candidate will be expected to make a major contribution to the Honours Degree Course in Building and related professional and Higher Technical Courses.

This is a temporary appointment commencing as soon as possible and terminating on 30 September 1986.

Salary Scale: L11 £7,936 - £11,733 (bar) - £13,705 per annum. £11,733 - £13,705 (bar) - £14,763 per annum.

The appointment will be made on the appropriate scale according to relevant previous service/experience. (Progression from the L11 scale to the SL scale is in accordance with the provisions of the Burdett Further Education Report).

For further details and an application form, to be returned by 29 November 1985, please contact the Personnel Office, Bristol Polytechnic, Coldharbour Lane, Fenchway, Bristol, or ring Bristol 656261. Ext. 216 or 217.

Please quote Reference Number L1/16 in all communications.

Avon County Council is an Equal Opportunities Employer. (91507)

Thames Polytechnic
Incorporating
Avery Hill College
School of Humanities

TEMPORARY
LECTURER II
IN ENGLISH

Temporary full-time Lecturer II in English, required from 1 January to 31 August 1986. Applicants will be expected primarily to teach 50th century fiction. The post will be an advantage and post-graduate literature in relation to studies. They will also be expected to be familiar with critical theory and developments in critical theory.

Salary scale £8,804 - £15,441 including London allowance.

Further details and application form from Personnel Office, Kingston Polytechnic, Penryn Road, Kingston upon Thames, Surrey KT1 2EE. Tel: 01-548 1365, Ext. 207. Closing date 6th December 1985.

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Bristol Polytechnic
Department of Computer
Studies and MathematicsLECTURER II/
SENIOR LECTURER
IN COMPUTER
SCIENCE

The Department has an excellent record of new expanding courses, the whole of which having been raised to a standard of excellence in the last two years. The Department is now seeking to recruit a Lecturer II/Senior Lecturer in Computer Science to join a team of staff engaged in teaching, research and consultancy. The successful candidate will be expected to make a major contribution to the Honours Degree Course in Computer Science and to the provision of continuing education for staff and students.

This is a temporary appointment commencing as soon as possible and terminating on 30 September 1986.

Salary Scale: L11 £7,936 - £11,733 (bar) - £13,705 per annum. £11,733 - £13,705 (bar) - £14,763 per annum.

The appointment will be made on the appropriate scale according to relevant previous service/experience. (Progression from the L11 scale to the SL scale is in accordance with the provisions of the Burdett Further Education Report).

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Polytechnics continued

Bristol Polytechnic
Business Studies DepartmentLECTURER II/
SENIOR LECTURER
IN BUSINESS
POLICY

The Department of Business Studies is seeking to recruit a Lecturer II/Senior Lecturer in Business Policy to join a team of staff engaged in teaching, research and consultancy. The successful candidate will be expected to make a major contribution to the Honours Degree Course in Business Policy and to the provision of continuing education for staff and students.

This is a temporary appointment commencing as soon as possible and terminating on 30 September 1986.

Salary Scale: L11 £7,936 - £11,733 (bar) - £13,705 per annum. £11,733 - £13,705 (bar) - £14,763 per annum.

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